



SOUTH BAY OCEAN OUTFALL MONTHLY RECEIVING WATERS MONITORING REPORT

SOUTH BAY WATER RECLAMATION PLANT

NPDES Permit No. CA0109045
SDRWQCB Order No. R9-2013-0006

SEPTEMBER 2019

REVISED MARCH 2021

Environmental Monitoring and Technical Services
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April 1, 2021

Mr. David W. Gibson, Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Attention: POTW Compliance Unit

Dear Mr. Gibson:

Enclosed is the revised September 2019 Monthly Receiving Waters Monitoring Report for the South Bay Ocean Outfall, South Bay Water Reclamation Plant as required per Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045. This revised report is being submitted to address data integrity issues identified to the Board in the letter dated October 22, 2020, subject: "San Diego NPDES Shoreline Sampling Program Report."

This report includes raw ocean monitoring data and summaries of water quality parameters and ocean conditions measured during the month for the South Bay outfall region. Also included are summaries of compliance with the bacterial water-contact standards specified in the California Ocean Plan. These data are also presented in the monthly report submitted by the International Boundary and Water Commission, U.S. Section for discharge from the South Bay International Wastewater Treatment Plant (Order No. R9-2014-0009 as amended by Order Nos. R9-2014-0094, R9-2017-0024, R9-2019-0012, NPDES Permit No. CA0108928).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Peter S. Vroom, Ph.D.
Deputy Public Utilities Director

PV/rk

cc: U.S. Environmental Protection Agency, Region 9

INTRODUCTION

Monthly reports of water quality and ocean conditions from Playa Blanco, Mexico to Coronado, USA are submitted to the San Diego Regional Water Quality Control Board and U.S. EPA Region 9 in accordance with Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, for the South Bay Water Reclamation Plant (SBWRP), South Bay Ocean Outfall (SBOO). This report includes receiving waters monitoring data collected from all shore, kelp and offshore stations specified in the above order. Data for influent and effluent monitoring activities for the SBWRP are presented in separate reports.

MATERIALS AND METHODS

Shore Stations

Water quality monitoring was conducted at 11 stations located along the shore from Playa Blanca, Mexico to Coronado, USA (see station locations map). Three sites are located south of the international border (stations S0, S2, S3), while eight sites are in the United States (stations S4–S6 and S8–S12).

Seawater samples were collected from the surf zone at each station on a weekly basis. These samples were subsequently transported to the City's Marine Microbiology Laboratory and analyzed for the presence of total coliform, fecal coliform, and *Enterococcus* bacteria. Visual observations of water color and clarity, surf height, human or animal activity, and weather conditions were recorded at the time of sample collection. Wind speed and direction were measured using a hand-held anemometer with a compass.

Kelp Bed Stations

Seven kelp bed and other nearshore stations (I19, I24, I25, I26, I32, I39, I40; collectively referred to as "kelp" stations herein) were sampled four times during the month according to NPDES permit specifications. Six stations (I19, I24, I25, I26, I32, I40) are located along the 9-m depth contour, and one (I39) is located along the 18-m depth contour. Three of these stations, I25, I26, and I39, were selected based on their proximity to suitable substrates for the Imperial Beach kelp bed (see station locations map); however, this kelp bed has been historically transient and variable in terms of size and density. Thus, these three stations are only occasionally located within an area where kelp is actually found.

The seven kelp stations are sampled on a weekly basis during the month. Routine monitoring at each kelp site consists of collecting seawater samples at three discrete depths for bacteriological analyses (total coliforms, fecal coliforms, and *Enterococcus* bacteria) and generating water column profiles of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, and transmissivity. Visual observations of weather and water conditions are also recorded at all stations.

Seawater samples at the kelp bed stations are primarily collected using a CTD-integrated rosette sampler with Niskin bottles. Aliquots for bacteriological analyses were drawn from these bottles into sterile sample bottles for processing at the City's Marine Microbiology Laboratory. Water column profiles of the various physical/chemical parameters were taken using a CTD. The CTD collected these physical/chemical data at a rate \geq 4 scans per second. The data were then internally averaged using the CTD proprietary software, Seasoft, to create water column profiles equivalent

to one reading per meter. Additionally, CTD profile data for each water sample depth are presented with the bacteriological data.

Offshore Stations

Quarterly offshore water quality sampling is typically conducted over three days during February, May, August, and November for a total of 40 stations during each month (see station locations map). These offshore stations (I1–I40) are arranged in a grid surrounding the discharge site, and are generally located along the 9, 19, 28, 38, and 55-m depth contours. The seven offshore sites designated as kelp bed stations (described above) are included as part of the monthly offshore water quality sampling, however the data from these seven stations are reported within the kelp bed station section of the report with the other four days of kelp bed water quality sampling. Monitoring at all sites included measurements of various physical/chemical parameters, including water temperature, salinity, density, dissolved oxygen, pH, chlorophyll *a*, transmissivity, and chromomorphic dissolved organic matter (CDOM). Visual observations of weather and water conditions were also recorded at all stations. Seawater samples for the analysis of indicator bacteria, suspended solids, and oil and grease concentrations were collected at 28 of the stations.

At these offshore stations, water samples for bacteriological analyses were collected using a rosette sampler with Niskin bottles. Measurements of the physical/chemical parameters listed above were taken using a Sea-Bird CTD. Additionally, CTD profile data for depths closest to those at which bacteriological samples were collected were extracted from the CTD profiles and are presented with the bacteriological data.

Bacteriological Reporting and Quality Assurance

Estimated values for bacteriological analyses are denoted by greater than (>), less than (<), or estimated (e) qualifiers and result from plates with colony counts above or below the permissible counting limits established in Bordner et al. (1978)¹. This document defines membrane filtration limits of 20–80 colonies per plate for total coliforms and 20–60 colonies per plate for fecal coliforms and *Enterococcus*. No Data (ND) is reported if plate counts from all dilutions have a total colony count of >200 per plate.

Results of the bacteriological analysis of seawater samples collected from each of the shore, kelp bed, and offshore stations located within State waters are assessed relative to the geometric mean and single sample maximum water-contact standards specified in the California Ocean Plan (Ocean Plan). The seven standards are defined as follows:

30-day Geometric Mean: The following standards are based on the geometric mean of the five most recent samples from each site.

- (1) Total coliform density shall not exceed 1000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 200 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 35 CFU/100 mL.

¹ Bordner, R., J. Winter, and P. Scarpino (eds.). (1978). Microbiological Methods for Monitoring the Environment: Water and Wastes, EPA Research and Development, EPA-600/8-78-017. 337 p.

Single Sample Maximums:

- (1) Total coliform density shall not exceed 10,000 CFU/100 mL;
- (2) Fecal coliform density shall not exceed 400 CFU/100 mL;
- (3) *Enterococcus* density shall not exceed 104 CFU/100 mL;
- (4) Total coliform density shall not exceed 1,000 CFU/100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

Compliance with the seven Ocean Plan standards are summarized below for the stations located in USA waters. In contrast, no such compliance summaries are presented for the three shore stations located in Mexican waters south of the International Border (i.e., S0, S2, and S3) since this region is not subject to the Ocean Plan standards.

Quality controls of bacteriological data include laboratory and field duplicate analyses. Laboratory duplicates are performed on approximately 10% of the water quality samples, while field duplicates are performed six times a month (see Appendix A). Laboratory duplicates represent two aliquots of the original sample that are split in the laboratory and analyzed by the same analyst using identical procedures within the same analytical run. The results of these analyses provide a measure of intra-analyst precision. In contrast, field duplicates represent two separate samples collected at the same time from the same site, which are handled under identical circumstances and treated exactly the same throughout field and lab procedures. The results of these analyses provide a measure of precision associated with sample collection, preservation, storage, and lab procedures. The sign test (see Gilbert, 1987²) is used to statistically compare both the results from the laboratory duplicates, as well as the results from the field duplicates. These data will be further analyzed in the City's 2019 Quality Assurance Report, which will be completed in March 2020.

SUMMARY OF RESULTS

➤ Shoreline Water Quality Sampling

- Due to site access restrictions in Mexico, the South Bay shoreline sampling is typically carried out on the same day each week (i.e., Tuesday) to coordinate sampling between the Mexican and USA based stations. Seawater samples at the three shore stations located south of the USA/Mexico border (i.e., stations S0, S2 and S3) are presently collected by the Comisión Internacional de Límites y Aguas (CILA) and transported to the USIBWC for subsequent delivery to the City's Marine Microbiology Lab, while samples from the eight stations located in USA waters are sampled by City staff.
- The 11 shore stations (S0, S2, S3, S4, S5, S6, S8, S9, S10, S11, S12) were sampled on September 3, 10, 17, and 24. Subsequent to initial reporting, samples collected at stations S6, S10, and S11 on September 10, and at stations S6, S8, S9, S10, and S11 on September 24, were determined to be problematic. The results from these samples have been removed from this report.
- All remaining samples collected in September from stations located north of the border were in compliance with various California Ocean Plan (Ocean Plan) water contact standards (these standards do not apply to stations located in Mexican waters).

2 Gilbert, R.O. (1987). Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold Co., New York.

- Although the Ocean Plan standards do not apply to these stations, bacteria densities exceeded one or more benchmark levels (i.e., total coliforms >10,000 CFU/100mL; fecal coliforms >400 CFU/100 mL; *Enterococcus* >104 CFU/100 mL; total >1000 CFU/100 mL & F:T ratio >0.1) in the seawater samples collected on September 3 at S0 and S3, and on September 10 at S0 and S2.
- Historical analyses of Ocean Plan compliance rates for the South Bay outfall shore and kelp monitoring stations, combined with the results of satellite imagery data, suggest that outflows from the Tijuana River and Los Buenos Creek, as well as surface runoff during or after rain events (storms), are likely to be the cause of impacted water quality along the shore and in near shore recreational waters in the South Bay region. See the City of San Diego's most recent *Biennial Receiving Waters Monitoring and Assessment Report for the Point Loma and South Bay Ocean Outfalls* for details (<https://www.sandiego.gov/public-utilities/sustainability/ocean-monitoring/reports>).
- Notable observations included a sewage-like odor on September 3 at S4 and S5, and on September 17 at S4 and S10.

➤ **Kelp Bed Water Quality Sampling**

- The seven kelp bed water quality stations (I19, I24, I25, I26, I32, I39, I40) were sampled on September 3, 10, 17, 24, and 30.
- During September, one of seven stations was out of compliance with various Ocean Plan water contact standards on one or more days as follows:
 - The single sample maximum (SSM) standard for total coliform densities was exceeded at station I19.
 - The SSM standard for fecal coliform densities was exceeded at station I19.
 - The SSM standard for *Enterococcus* bacteria was exceeded at station I19.
 - The SSM standard that states total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1 was exceeded at I19.
- Water column temperatures ranged from 14.07 to 21.39°C. The difference between surface and bottom waters ranged from 0.15 to 6.41°C.
- Concentrations of Chlorophyll *a* ranged from 0.76 to 49.53 µg/L, suggesting the presence of phytoplankton blooms during the month.
- Notable observations included a sewage-like odor on September 10 at I19.

➤ **Offshore Water Quality Sampling**

- Quarterly offshore water quality sampling was not conducted during September. The next quarterly sampling is scheduled for November 2019.



TABLES AND FIGURES

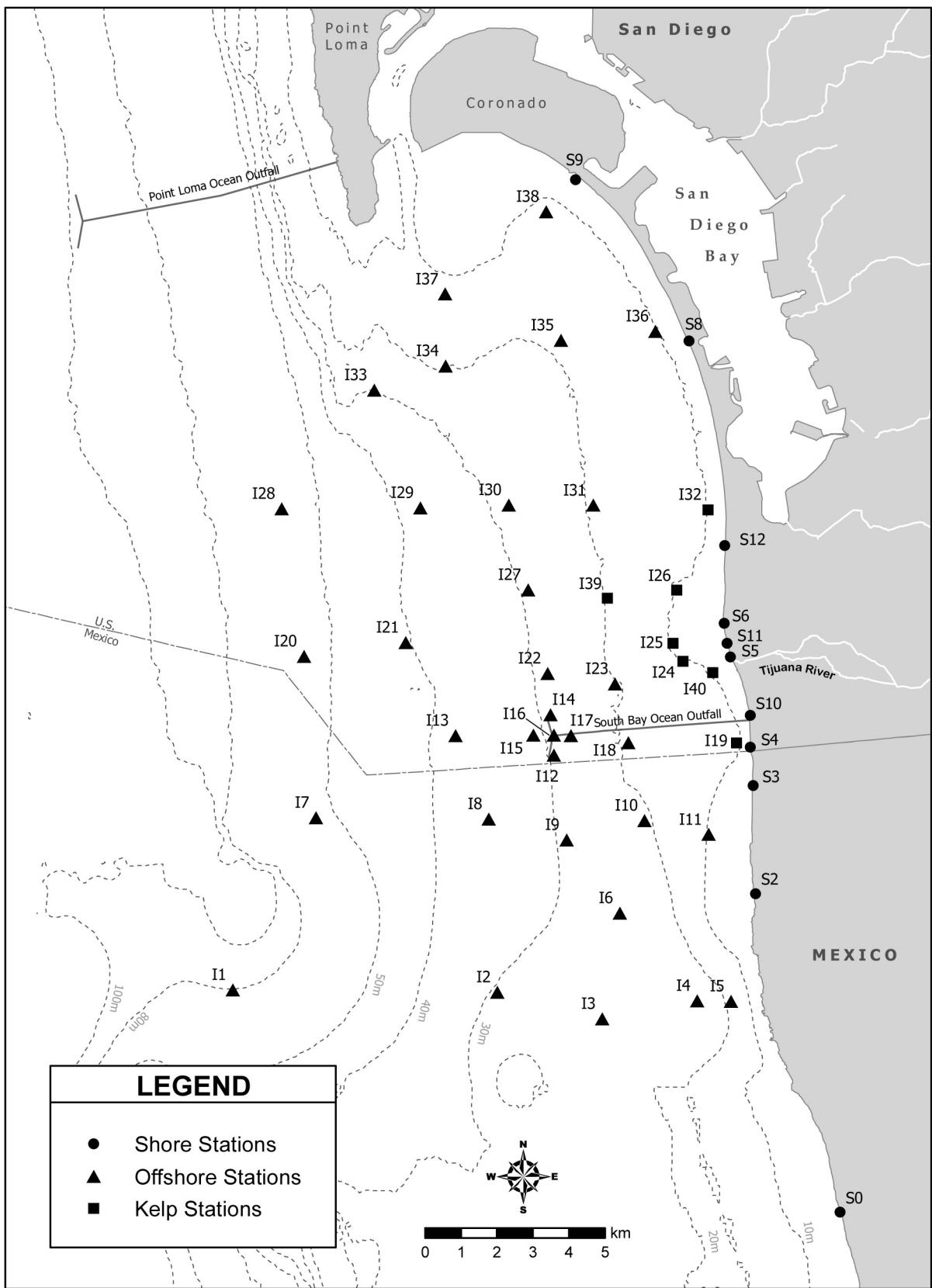


Figure 1.1 Station Map

Shore Stations

Table 2.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Sep 2019	47	43	25	20	20	36	43	20
02 Sep 2019	47	43	25	20	20	36	43	20
03 Sep 2019	39	36	24	20	20	32	36	20
04 Sep 2019	39	36	24	20	20	32	36	20
05 Sep 2019	26	20	12	9	11	20	20	20
06 Sep 2019	26	20	12	9	11	20	20	20
07 Sep 2019	26	20	12	9	11	20	20	20
08 Sep 2019	26	20	12	9	11	20	20	20
09 Sep 2019	26	20	12	9	11	20	20	20
10 Sep 2019	25	39	12	8	13	20	20	23
11 Sep 2019	25	39	12	8	13	20	20	23
12 Sep 2019	20	39	20	5	11	20	20	24
13 Sep 2019	20	39	20	5	11	20	20	24
14 Sep 2019	20	39	20	5	11	20	20	24
15 Sep 2019	20	39	20	5	11	20	20	24
16 Sep 2019	20	39	20	5	11	20	20	24
17 Sep 2019	20	34	43	8	20	20	29	36
18 Sep 2019	20	34	43	8	20	20	29	36
19 Sep 2019	20	39	63	12	36	20	35	42
20 Sep 2019	20	39	63	12	36	20	35	42
21 Sep 2019	20	39	63	12	36	20	35	42
22 Sep 2019	20	39	63	12	36	20	35	42
23 Sep 2019	20	39	63	12	36	20	35	42
24 Sep 2019	20	34	63	12	36	20	35	36
25 Sep 2019	20	34	63	12	36	20	35	36
26 Sep 2019	20	39	63	12	43	20	35	42
27 Sep 2019	20	39	63	12	43	20	35	42
28 Sep 2019	20	39	63	12	43	20	35	42
29 Sep 2019	20	39	63	12	43	20	35	42
30 Sep 2019	20	39	63	12	43	20	35	42

* Geometric mean calculated using n<5

Table 2.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Sep 2019	5	2	3	2	2	2	3	4
02 Sep 2019	5	2	3	2	2	2	3	4
03 Sep 2019	4	2	3	2	2	2	3	5
04 Sep 2019	4	2	3	2	2	2	3	5
05 Sep 2019	3	3	3	2	2	2	3	6
06 Sep 2019	3	3	3	2	2	2	3	6
07 Sep 2019	3	3	3	2	2	2	3	6
08 Sep 2019	3	3	3	2	2	2	3	6
09 Sep 2019	3	3	3	2	2	2	3	6
10 Sep 2019	3	5	3	2	2	2	3	6
11 Sep 2019	3	5	3	2	2	2	3	6
12 Sep 2019	3	5	2	2	2	2	3	6
13 Sep 2019	3	5	2	2	2	2	3	6
14 Sep 2019	3	5	2	2	2	2	3	6
15 Sep 2019	3	5	2	2	2	2	3	6
16 Sep 2019	3	5	2	2	2	2	3	6
17 Sep 2019	3	4	4	2	4	3	3	6
18 Sep 2019	3	4	4	2	4	3	3	6
19 Sep 2019	3	5	6	2	5	3	4	6
20 Sep 2019	3	5	6	2	5	3	4	6
21 Sep 2019	3	5	6	2	5	3	4	6
22 Sep 2019	3	5	6	2	5	3	4	6
23 Sep 2019	3	5	6	2	5	3	4	6
24 Sep 2019	3	4	6	2	5	3	4	5
25 Sep 2019	3	4	6	2	5	3	4	5
26 Sep 2019	2	5	6	2	6	3	4	5
27 Sep 2019	2	5	6	2	6	3	4	5
28 Sep 2019	2	5	6	2	6	3	4	5
29 Sep 2019	2	5	6	2	6	3	4	5
30 Sep 2019	2	5	6	2	6	3	4	5

* Geometric mean calculated using n<5

Table 2.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO shore stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	S4	S5	S6	S8	S9	S10	S11	S12
01 Sep 2019	5	7	3	3	3	2	4	2
02 Sep 2019	5	7	3	3	3	2	4	2
03 Sep 2019	5	9	4	2	3	2	6	4
04 Sep 2019	5	9	4	2	3	2	6	4
05 Sep 2019	3	16	5	2	4	2	8	4
06 Sep 2019	3	16	5	2	4	2	8	4
07 Sep 2019	3	16	5	2	4	2	8	4
08 Sep 2019	3	16	5	2	4	2	8	4
09 Sep 2019	3	16	5	2	4	2	8	4
10 Sep 2019	3	15	5	2	3	2	8	4
11 Sep 2019	3	15	5	2	3	2	8	4
12 Sep 2019	2	15	7	2	4	2	6	5
13 Sep 2019	2	15	7	2	4	2	6	5
14 Sep 2019	2	15	7	2	4	2	6	5
15 Sep 2019	2	15	7	2	4	2	6	5
16 Sep 2019	2	15	7	2	4	2	6	5
17 Sep 2019	2	10	5	2	6	2	4	4
18 Sep 2019	2	10	5	2	6	2	4	4
19 Sep 2019	2	10	3	2	8	3	6	4
20 Sep 2019	2	10	3	2	8	3	6	4
21 Sep 2019	2	10	3	2	8	3	6	4
22 Sep 2019	2	10	3	2	8	3	6	4
23 Sep 2019	2	10	3	2	8	3	6	4
24 Sep 2019	2	7	3	2	8	3	6	4
25 Sep 2019	2	7	3	2	8	3	6	4
26 Sep 2019	2	6	3	2	8	3	6	5
27 Sep 2019	2	6	3	2	8	3	6	5
28 Sep 2019	2	6	3	2	8	3	6	5
29 Sep 2019	2	6	3	2	8	3	6	5
30 Sep 2019	2	6	3	2	8	3	6	5

* Geometric mean calculated using n<5

Table 2.4

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
03 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
10 Sep 2019	IC	IC	ns	IC	IC	ns	ns	IC
17 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
24 Sep 2019	IC	IC	ns	ns	ns	ns	ns	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.5

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
03 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
10 Sep 2019	IC	IC	ns	IC	IC	ns	ns	IC
17 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
24 Sep 2019	IC	IC	ns	ns	ns	ns	ns	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.6

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	S4	S5	S6	S8	S9	S10	S11	S12
03 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
10 Sep 2019	IC	IC	ns	IC	IC	ns	ns	IC
17 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
24 Sep 2019	IC	IC	ns	ns	ns	ns	ns	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.7

Summary of compliance at the SBOO shore stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	S4	S5	S6	S8	S9	S10	S11	S12
03 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
10 Sep 2019	IC	IC	ns	IC	IC	ns	ns	IC
17 Sep 2019	IC	IC	IC	IC	IC	IC	IC	IC
24 Sep 2019	IC	IC	ns	ns	ns	ns	ns	IC

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 2.8

Summary of water quality parameters at the SBOO shore stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Enter) are reported as CFU/100 mL. The fecal:total coliform ratio (F:T) is unitless. Comments follow the data summary.

Station	Date	Time	Total	Fecal	Enter	F:T
S0	03 Sep 2019	1112	12000	5000	5000	0.417
S0	10 Sep 2019	1030	280e	100	120	0.357
S0	17 Sep 2019	1030	<20	2e	60	0.100
S0	24 Sep 2019	1010	260e	32e	66	0.123
S2	03 Sep 2019	1205	1000	20e	24e	0.020
S2	10 Sep 2019	1130	2600e	60e	140e	0.023
S2	17 Sep 2019	1115	200e	100	80e	0.500
S2	24 Sep 2019	1210	800e	<2	<2	0.002
S3	03 Sep 2019	1235	60e	<2	4200	0.033
S3	10 Sep 2019	1110	1200	54	80	0.045
S3	17 Sep 2019	1150	<20	<2	64	0.100
S3	24 Sep 2019	1120	60e	<2	<2	0.033
S4	03 Sep 2019	858	20e	2e	4e	0.100
S4	10 Sep 2019	1108	20e	<2	2e	0.100
S4	17 Sep 2019	936	<20	4e	<2	0.200
S4	24 Sep 2019	1159	<20	<2	<2	0.100
S5	03 Sep 2019	701	<20	4e	24e	0.200
S5	10 Sep 2019	1148	280e	44	12e	0.157
S5	17 Sep 2019	822	<20	<2	2e	0.100
S5	24 Sep 2019	1015	<20	2e	2e	0.100
S6	03 Sep 2019	718	20e	<2	6e	0.100
S6	10 Sep 2019		ns	ns	ns	ns
S6	17 Sep 2019	856	<200	<20	<2	0.100
S6	24 Sep 2019		ns	ns	ns	ns
S8	03 Sep 2019	949	20e	2e	2e	0.100
S8	10 Sep 2019	1238	4e	<2	<2	0.500
S8	17 Sep 2019	913	<20	<2	<2	0.100
S8	24 Sep 2019		ns	ns	ns	ns
S9	03 Sep 2019	1022	<20	2e	6e	0.100
S9	10 Sep 2019	1257	<20	<2	2e	0.100
S9	17 Sep 2019	933	<200	60e	40e	0.300
S9	24 Sep 2019		ns	ns	ns	ns
S10	03 Sep 2019	837	<20	<2	<2	0.100
S10	10 Sep 2019		ns	ns	ns	ns
S10	17 Sep 2019	946	<20	6e	4e	0.300
S10	24 Sep 2019		ns	ns	ns	ns
S11	03 Sep 2019	708	<20	4e	20e	0.200
S11	10 Sep 2019		ns	ns	ns	ns
S11	17 Sep 2019	845	60e	4e	<2	0.067
S11	24 Sep 2019		ns	ns	ns	ns
S12	03 Sep 2019	753	<20	6e	18e	0.300
S12	10 Sep 2019	1205	40e	6e	4e	0.150
S12	17 Sep 2019	854	<200	8e	<2	0.040
S12	24 Sep 2019	1035	<20	<2	4e	0.100

Table 2.9

Summary of visual observations made during the month for each SBOO shore station by sample date.

Station	Date	Parameter	Value
S0	03 Sep 2019	Arrive Time	1112
S0	03 Sep 2019	Weather	Overcast
S0	03 Sep 2019	Wind Speed (kts)	1.1
S0	03 Sep 2019	Wind Dir	SW
S0	03 Sep 2019	Animal Life	5 Shorebirds
S0	03 Sep 2019	Floatables	None
S0	03 Sep 2019	Water Color	Green
S0	03 Sep 2019	Current Direction	N
S0	03 Sep 2019	Water Temp (C)	21
S0	03 Sep 2019	Wave Height Low (ft)	5
S0	03 Sep 2019	High Tide (ft)	5.4
S0	03 Sep 2019	High Tide Time	1246
S0	03 Sep 2019	Low Tide (ft)	0.8
S0	03 Sep 2019	Low Tide Time	628
S0	03 Sep 2019	Comments	Kelp; Algae; Water turbid; 2.0 L/s water flowing from storm drain
S0	10 Sep 2019	Arrive Time	1030
S0	10 Sep 2019	Weather	Sunny
S0	10 Sep 2019	Wind Speed (kts)	3.8
S0	10 Sep 2019	Wind Dir	NW
S0	10 Sep 2019	Animal Life	3 Dogs; >20 Seagulls
S0	10 Sep 2019	Floatables	None
S0	10 Sep 2019	Water Color	Green
S0	10 Sep 2019	Current Direction	N
S0	10 Sep 2019	Water Temp (C)	16
S0	10 Sep 2019	Wave Height Low (ft)	2
S0	10 Sep 2019	High Tide (ft)	4.3
S0	10 Sep 2019	High Tide Time	836
S0	10 Sep 2019	Low Tide (ft)	2
S0	10 Sep 2019	Low Tide Time	1355
S0	10 Sep 2019	Comments	Kelp; Algae; Water turbid; 0.2L/s water flowing flow from storm drain
S0	17 Sep 2019	Arrive Time	1030
S0	17 Sep 2019	Weather	Sunny
S0	17 Sep 2019	Wind Speed (kts)	0.9
S0	17 Sep 2019	Wind Dir	SW
S0	17 Sep 2019	Animal Life	15 Birds
S0	17 Sep 2019	Floatables	None
S0	17 Sep 2019	Water Color	Green
S0	17 Sep 2019	Current Direction	N
S0	17 Sep 2019	Water Temp (C)	15
S0	17 Sep 2019	Wave Height Low (ft)	2
S0	17 Sep 2019	High Tide (ft)	5
S0	17 Sep 2019	High Tide Time	1116
S0	17 Sep 2019	Low Tide (ft)	1.1
S0	17 Sep 2019	Low Tide Time	510
S0	17 Sep 2019	Comments	Kelp; Algae; Water clear; 0.5 L/s water flowing from storm drain
S0	24 Sep 2019	Arrive Time	1010
S0	24 Sep 2019	Weather	Sunny
S0	24 Sep 2019	Wind Speed (kts)	0.7
S0	24 Sep 2019	Wind Dir	SW
S0	24 Sep 2019	Animal Life	>20 Birds; 5 Dogs

Station	Date	Parameter	Value
S0	24 Sep 2019	Floatables	None
	24 Sep 2019	Water Color	Green
	24 Sep 2019	Current Direction	N
	24 Sep 2019	Water Temp (C)	16
	24 Sep 2019	Wave Height Low (ft)	2
	24 Sep 2019	High Tide (ft)	4.1
	24 Sep 2019	High Tide Time	718
	24 Sep 2019	Low Tide (ft)	2.3
	24 Sep 2019	Low Tide Time	1224
	24 Sep 2019	Comments	Algae; 5 Persons; Water clear; 1.5 L/s water flowing from storm drain
S2	03 Sep 2019	Arrive Time	1205
	03 Sep 2019	Weather	Sunny
	03 Sep 2019	Wind Speed (kts)	1.5
	03 Sep 2019	Wind Dir	SW
	03 Sep 2019	Animal Life	None
	03 Sep 2019	Floatables	None
	03 Sep 2019	Water Color	Green
	03 Sep 2019	Current Direction	N
	03 Sep 2019	Water Temp (C)	20
	03 Sep 2019	Wave Height Low (ft)	5
S2	03 Sep 2019	High Tide (ft)	5.4
	03 Sep 2019	High Tide Time	1246
	03 Sep 2019	Low Tide (ft)	0.8
	03 Sep 2019	Low Tide Time	628
	03 Sep 2019	Comments	Kelp; Algae; 5 Swimmers; Water turbid; No flow from storm drain
	10 Sep 2019	Arrive Time	1130
	10 Sep 2019	Weather	Sunny
	10 Sep 2019	Wind Speed (kts)	5.7
	10 Sep 2019	Wind Dir	SW
	10 Sep 2019	Animal Life	1 Dog; >20 Seagulls
S2	10 Sep 2019	Floatables	None
	10 Sep 2019	Water Color	Green
	10 Sep 2019	Current Direction	N
	10 Sep 2019	Water Temp (C)	16
	10 Sep 2019	Wave Height Low (ft)	2
	10 Sep 2019	High Tide (ft)	4.3
	10 Sep 2019	High Tide Time	836
	10 Sep 2019	Low Tide (ft)	2
	10 Sep 2019	Low Tide Time	1355
	10 Sep 2019	Comments	Kelp; Algae; 3 Swimmers; Water turbid; No flow from storm drain
S2	17 Sep 2019	Arrive Time	1115
	17 Sep 2019	Weather	Sunny
	17 Sep 2019	Wind Speed (kts)	1.1
	17 Sep 2019	Wind Dir	SW
	17 Sep 2019	Animal Life	15 Birds; 5 Dogs
	17 Sep 2019	Floatables	None
	17 Sep 2019	Water Color	Green
	17 Sep 2019	Current Direction	N
	17 Sep 2019	Water Temp (C)	15
	17 Sep 2019	Wave Height Low (ft)	2

Station	Date	Parameter	Value
S2	17 Sep 2019	Comments	Kelp; Algae; 15 Persons; Water clear; No flow from storm drain
S2	24 Sep 2019	Arrive Time	1210
S2	24 Sep 2019	Weather	Sunny
S2	24 Sep 2019	Wind Speed (kts)	1.2
S2	24 Sep 2019	Wind Dir	SW
S2	24 Sep 2019	Animal Life	>20 Birds
S2	24 Sep 2019	Floatables	None
S2	24 Sep 2019	Water Color	Green
S2	24 Sep 2019	Current Direction	N
S2	24 Sep 2019	Water Temp (C)	16
S2	24 Sep 2019	Wave Height Low (ft)	2
S2	24 Sep 2019	High Tide (ft)	4.1
S2	24 Sep 2019	High Tide Time	718
S2	24 Sep 2019	Low Tide (ft)	2.3
S2	24 Sep 2019	Low Tide Time	1224
S2	24 Sep 2019	Comments	Algae; 5 Persons; Water clear; No flow from storm drain
S3	03 Sep 2019	Arrive Time	1235
S3	03 Sep 2019	Weather	Sunny
S3	03 Sep 2019	Wind Speed (kts)	1.4
S3	03 Sep 2019	Wind Dir	SW
S3	03 Sep 2019	Animal Life	None
S3	03 Sep 2019	Floatables	None
S3	03 Sep 2019	Water Color	Green
S3	03 Sep 2019	Current Direction	N
S3	03 Sep 2019	Water Temp (C)	21
S3	03 Sep 2019	Wave Height Low (ft)	5
S3	03 Sep 2019	High Tide (ft)	5.4
S3	03 Sep 2019	High Tide Time	1246
S3	03 Sep 2019	Low Tide (ft)	0.8
S3	03 Sep 2019	Low Tide Time	628
S3	03 Sep 2019	Comments	Kelp; Algae; >20 Swimmers; Water turbid; No flow from storm drain
S3	10 Sep 2019	Arrive Time	1110
S3	10 Sep 2019	Weather	Sunny
S3	10 Sep 2019	Wind Speed (kts)	5.3
S3	10 Sep 2019	Wind Dir	SW
S3	10 Sep 2019	Animal Life	5 Dogs; >20 Seagulls
S3	10 Sep 2019	Floatables	None
S3	10 Sep 2019	Water Color	Green
S3	10 Sep 2019	Current Direction	N
S3	10 Sep 2019	Water Temp (C)	16
S3	10 Sep 2019	Wave Height Low (ft)	2
S3	10 Sep 2019	High Tide (ft)	4.3
S3	10 Sep 2019	High Tide Time	836
S3	10 Sep 2019	Low Tide (ft)	2
S3	10 Sep 2019	Low Tide Time	1355
S3	10 Sep 2019	Comments	Kelp; Algae; 5 Swimmers; Water turbid; No flow from strom drain
S3	17 Sep 2019	Arrive Time	1150
S3	17 Sep 2019	Weather	Sunny
S3	17 Sep 2019	Wind Speed (kts)	0.8
S3	17 Sep 2019	Wind Dir	SW
S3	17 Sep 2019	Animal Life	5 Birds
S3	17 Sep 2019	Floatables	None
S3	17 Sep 2019	Water Color	Green
S3	17 Sep 2019	Current Direction	N

Station	Date	Parameter	Value
S3	17 Sep 2019	Water Temp (C)	15
S3	17 Sep 2019	Wave Height Low (ft)	2
S3	17 Sep 2019	High Tide (ft)	5
S3	17 Sep 2019	High Tide Time	1116
S3	17 Sep 2019	Low Tide (ft)	1.1
S3	17 Sep 2019	Low Tide Time	1743
S3	17 Sep 2019	Comments	Kelp; Algae; 15 Persons; Water clear; No flow from storm drain
S3	24 Sep 2019	Arrive Time	1120
S3	24 Sep 2019	Weather	Sunny
S3	24 Sep 2019	Wind Speed (kts)	2
S3	24 Sep 2019	Wind Dir	SW
S3	24 Sep 2019	Animal Life	5 Birds; 5 Dogs
S3	24 Sep 2019	Floatables	None
S3	24 Sep 2019	Water Color	Green
S3	24 Sep 2019	Current Direction	N
S3	24 Sep 2019	Water Temp (C)	16
S3	24 Sep 2019	Wave Height Low (ft)	2
S3	24 Sep 2019	High Tide (ft)	4.1
S3	24 Sep 2019	High Tide Time	718
S3	24 Sep 2019	Low Tide (ft)	2.3
S3	24 Sep 2019	Low Tide Time	1224
S3	24 Sep 2019	Comments	Algae; 5 Persons; Water clear; No flow from storm drain
S4	03 Sep 2019	Arrive Time	858
S4	03 Sep 2019	Weather	Partly Cloudy
S4	03 Sep 2019	Wind Speed (kts)	1.7
S4	03 Sep 2019	Wind Dir	E
S4	03 Sep 2019	Animal Life	100 Shorebirds; 125 Godwits; 40 Seagulls
S4	03 Sep 2019	Floatables	Foam; Film
S4	03 Sep 2019	Water Color	Green
S4	03 Sep 2019	Current Direction	N
S4	03 Sep 2019	Water Temp (C)	22.7
S4	03 Sep 2019	Wave Height Low (ft)	2
S4	03 Sep 2019	High Tide (ft)	5.4
S4	03 Sep 2019	High Tide Time	1246
S4	03 Sep 2019	Low Tide (ft)	0.8
S4	03 Sep 2019	Low Tide Time	628
S4	03 Sep 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S4	10 Sep 2019	Arrive Time	1108
S4	10 Sep 2019	Weather	Sunny
S4	10 Sep 2019	Wind Speed (kts)	8.8
S4	10 Sep 2019	Wind Dir	SW
S4	10 Sep 2019	Animal Life	None
S4	10 Sep 2019	Floatables	None
S4	10 Sep 2019	Water Color	Green
S4	10 Sep 2019	Current Direction	N
S4	10 Sep 2019	Water Temp (C)	19.8
S4	10 Sep 2019	Wave Height Low (ft)	3
S4	10 Sep 2019	High Tide (ft)	4.3
S4	10 Sep 2019	High Tide Time	836
S4	10 Sep 2019	Low Tide (ft)	2
S4	10 Sep 2019	Low Tide Time	1355
S4	10 Sep 2019	Comments	Kelp; Seagrass; Water clear
S4	17 Sep 2019	Arrive Time	936
S4	17 Sep 2019	Weather	Sunny
S4	17 Sep 2019	Wind Speed (kts)	5.6
S4	17 Sep 2019	Wind Dir	E

Station	Date	Parameter	Value
S4	17 Sep 2019	Animal Life	200 Godwits; 200 Seagulls
S4	17 Sep 2019	Floatables	Foam; Film
S4	17 Sep 2019	Water Color	Green
S4	17 Sep 2019	Current Direction	N
S4	17 Sep 2019	Water Temp (C)	21
S4	17 Sep 2019	Wave Height Low (ft)	3
S4	17 Sep 2019	High Tide (ft)	5
S4	17 Sep 2019	High Tide Time	1116
S4	17 Sep 2019	Low Tide (ft)	1.1
S4	17 Sep 2019	Low Tide Time	510
S4	17 Sep 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S4	24 Sep 2019	Arrive Time	1159
S4	24 Sep 2019	Weather	Sunny
S4	24 Sep 2019	Wind Speed (kts)	5.4
S4	24 Sep 2019	Wind Dir	W
S4	24 Sep 2019	Animal Life	None
S4	24 Sep 2019	Floatables	None
S4	24 Sep 2019	Water Color	Green
S4	24 Sep 2019	Current Direction	N
S4	24 Sep 2019	Water Temp (C)	20.7
S4	24 Sep 2019	Wave Height Low (ft)	3
S4	24 Sep 2019	High Tide (ft)	4.1
S4	24 Sep 2019	High Tide Time	718
S4	24 Sep 2019	Low Tide (ft)	2.3
S4	24 Sep 2019	Low Tide Time	1224
S4	24 Sep 2019	Comments	Kelp; Seagrass; Water clear
S5	03 Sep 2019	Arrive Time	701
S5	03 Sep 2019	Weather	Partly Cloudy
S5	03 Sep 2019	Wind Speed (kts)	2.1
S5	03 Sep 2019	Wind Dir	E
S5	03 Sep 2019	Animal Life	1 Seagull
S5	03 Sep 2019	Floatables	Foam
S5	03 Sep 2019	Water Color	Green
S5	03 Sep 2019	Current Direction	N
S5	03 Sep 2019	Water Temp (C)	22.8
S5	03 Sep 2019	Wave Height Low (ft)	1
S5	03 Sep 2019	High Tide (ft)	5.4
S5	03 Sep 2019	High Tide Time	1246
S5	03 Sep 2019	Low Tide (ft)	0.8
S5	03 Sep 2019	Low Tide Time	628
S5	03 Sep 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; Water clear
S5	10 Sep 2019	Arrive Time	1148
S5	10 Sep 2019	Weather	Sunny
S5	10 Sep 2019	Wind Speed (kts)	8.9
S5	10 Sep 2019	Wind Dir	W
S5	10 Sep 2019	Animal Life	None
S5	10 Sep 2019	Floatables	None
S5	10 Sep 2019	Water Color	Green
S5	10 Sep 2019	Current Direction	N
S5	10 Sep 2019	Water Temp (C)	23.1
S5	10 Sep 2019	Wave Height Low (ft)	3
S5	10 Sep 2019	High Tide (ft)	4.3
S5	10 Sep 2019	High Tide Time	836
S5	10 Sep 2019	Low Tide (ft)	2
S5	10 Sep 2019	Low Tide Time	1355
S5	10 Sep 2019	Comments	Kelp; Seagrass; Debris; Water clear
S5	17 Sep 2019	Arrive Time	822

Station	Date	Parameter	Value
S5	17 Sep 2019	Weather	Sunny
S5	17 Sep 2019	Wind Speed (kts)	1.9
S5	17 Sep 2019	Wind Dir	E
S5	17 Sep 2019	Animal Life	1 Pelican
S5	17 Sep 2019	Floatables	Foam; Film
S5	17 Sep 2019	Water Color	Green
S5	17 Sep 2019	Current Direction	N
S5	17 Sep 2019	Water Temp (C)	18
S5	17 Sep 2019	Wave Height Low (ft)	3
S5	17 Sep 2019	High Tide (ft)	5
S5	17 Sep 2019	High Tide Time	1116
S5	17 Sep 2019	Low Tide (ft)	1.1
S5	17 Sep 2019	Low Tide Time	510
S5	17 Sep 2019	Comments	Kelp; Seagrass; Debris; 2 Persons; Water clear
S5	24 Sep 2019	Arrive Time	1015
S5	24 Sep 2019	Weather	Sunny
S5	24 Sep 2019	Wind Speed (kts)	2.3
S5	24 Sep 2019	Wind Dir	W
S5	24 Sep 2019	Animal Life	8 Shorebirds; 15 Pelicans; 15 Sand Pipers; 12 Seagulls
S5	24 Sep 2019	Floatables	None
S5	24 Sep 2019	Water Color	Green
S5	24 Sep 2019	Current Direction	N
S5	24 Sep 2019	Water Temp (C)	20.8
S5	24 Sep 2019	Wave Height Low (ft)	2
S5	24 Sep 2019	High Tide (ft)	4.1
S5	24 Sep 2019	High Tide Time	718
S5	24 Sep 2019	Low Tide (ft)	2.3
S5	24 Sep 2019	Low Tide Time	1224
S5	24 Sep 2019	Comments	Kelp; Seagrass; 1 Jogger; Water clear
S6	03 Sep 2019	Arrive Time	718
S6	03 Sep 2019	Weather	Partly Cloudy
S6	03 Sep 2019	Wind Speed (kts)	3.3
S6	03 Sep 2019	Wind Dir	E
S6	03 Sep 2019	Animal Life	2 Shorebirds; 1 Dog; 3 Dolphins; 5 Pelicans
S6	03 Sep 2019	Floatables	Foam; Film
S6	03 Sep 2019	Water Color	Green
S6	03 Sep 2019	Current Direction	N
S6	03 Sep 2019	Water Temp (C)	21.8
S6	03 Sep 2019	Wave Height Low (ft)	2
S6	03 Sep 2019	High Tide (ft)	5.4
S6	03 Sep 2019	High Tide Time	1246
S6	03 Sep 2019	Low Tide (ft)	0.8
S6	03 Sep 2019	Low Tide Time	628
S6	03 Sep 2019	Comments	Kelp; Seagrass; Debris; 2 Persons; 3 Surfers; Water clear
S6	17 Sep 2019	Arrive Time	856
S6	17 Sep 2019	Weather	Sunny
S6	17 Sep 2019	Wind Speed (kts)	5.4
S6	17 Sep 2019	Wind Dir	E
S6	17 Sep 2019	Animal Life	2 Dogs; 4 Godwits
S6	17 Sep 2019	Floatables	Foam; Film
S6	17 Sep 2019	Water Color	Green
S6	17 Sep 2019	Current Direction	N
S6	17 Sep 2019	Water Temp (C)	21.4
S6	17 Sep 2019	Wave Height Low (ft)	2
S6	17 Sep 2019	High Tide (ft)	5
S6	17 Sep 2019	High Tide Time	1116
S6	17 Sep 2019	Low Tide (ft)	1.1
S6	17 Sep 2019	Low Tide Time	510

Station	Date	Parameter	Value
S6	17 Sep 2019	Comments	Kelp; Seagrass; Debris; 2 Persons; Water clear
S8	03 Sep 2019	Arrive Time	949
S8	03 Sep 2019	Weather	Sunny
S8	03 Sep 2019	Wind Speed (kts)	5.2
S8	03 Sep 2019	Wind Dir	E
S8	03 Sep 2019	Animal Life	26 Seagulls
S8	03 Sep 2019	Floatables	Foam; Film
S8	03 Sep 2019	Water Color	Green
S8	03 Sep 2019	Current Direction	N
S8	03 Sep 2019	Water Temp (C)	23.7
S8	03 Sep 2019	Wave Height Low (ft)	2
S8	03 Sep 2019	High Tide (ft)	5.4
S8	03 Sep 2019	High Tide Time	1246
S8	03 Sep 2019	Low Tide (ft)	0.8
S8	03 Sep 2019	Low Tide Time	628
S8	03 Sep 2019	Comments	Kelp; Seagrass; 6 Persons; 1 Surfer; 1 Fisherman; Water clear
S8	10 Sep 2019	Arrive Time	1238
S8	10 Sep 2019	Weather	Sunny
S8	10 Sep 2019	Wind Speed (kts)	9.4
S8	10 Sep 2019	Wind Dir	W
S8	10 Sep 2019	Animal Life	None
S8	10 Sep 2019	Floatables	None
S8	10 Sep 2019	Water Color	Green
S8	10 Sep 2019	Current Direction	N
S8	10 Sep 2019	Water Temp (C)	22.3
S8	10 Sep 2019	Wave Height Low (ft)	2
S8	10 Sep 2019	High Tide (ft)	4.3
S8	10 Sep 2019	High Tide Time	836
S8	10 Sep 2019	Low Tide (ft)	2
S8	10 Sep 2019	Low Tide Time	1355
S8	10 Sep 2019	Comments	Kelp; Seagrass; 2 Joggers; 4 Persons; 1 Fisherman; Water clear
S8	17 Sep 2019	Arrive Time	913
S8	17 Sep 2019	Weather	Sunny
S8	17 Sep 2019	Wind Speed (kts)	3.4
S8	17 Sep 2019	Wind Dir	W
S8	17 Sep 2019	Animal Life	None
S8	17 Sep 2019	Floatables	None
S8	17 Sep 2019	Water Color	Green
S8	17 Sep 2019	Current Direction	N
S8	17 Sep 2019	Water Temp (C)	21
S8	17 Sep 2019	Wave Height Low (ft)	3
S8	17 Sep 2019	High Tide (ft)	5
S8	17 Sep 2019	High Tide Time	1116
S8	17 Sep 2019	Low Tide (ft)	1.1
S8	17 Sep 2019	Low Tide Time	510
S8	17 Sep 2019	Comments	Kelp; Seagrass; 1 Person; Water clear
S9	03 Sep 2019	Arrive Time	1022
S9	03 Sep 2019	Weather	Sunny
S9	03 Sep 2019	Wind Speed (kts)	3.6
S9	03 Sep 2019	Wind Dir	E
S9	03 Sep 2019	Animal Life	23 Seagulls
S9	03 Sep 2019	Floatables	Foam; Film
S9	03 Sep 2019	Water Color	Green
S9	03 Sep 2019	Current Direction	N
S9	03 Sep 2019	Water Temp (C)	24.8

Station	Date	Parameter	Value
S9	03 Sep 2019	Wave Height Low (ft)	2
S9	03 Sep 2019	High Tide (ft)	5.4
S9	03 Sep 2019	High Tide Time	1246
S9	03 Sep 2019	Low Tide (ft)	0.8
S9	03 Sep 2019	Low Tide Time	628
S9	03 Sep 2019	Comments	Kelp; Seagrass; 8 Persons; 3 Surfers; Water clear
S9	10 Sep 2019	Arrive Time	1257
S9	10 Sep 2019	Weather	Sunny
S9	10 Sep 2019	Wind Speed (kts)	7.7
S9	10 Sep 2019	Wind Dir	W
S9	10 Sep 2019	Animal Life	None
S9	10 Sep 2019	Floatables	None
S9	10 Sep 2019	Water Color	Green
S9	10 Sep 2019	Current Direction	N
S9	10 Sep 2019	Water Temp (C)	23.2
S9	10 Sep 2019	Wave Height Low (ft)	2
S9	10 Sep 2019	High Tide (ft)	4.3
S9	10 Sep 2019	High Tide Time	836
S9	10 Sep 2019	Low Tide (ft)	2
S9	10 Sep 2019	Low Tide Time	1355
S9	10 Sep 2019	Comments	Kelp; Seagrass; 14 Persons; 4 Swimmers; Water clear
S9	17 Sep 2019	Arrive Time	933
S9	17 Sep 2019	Weather	Sunny
S9	17 Sep 2019	Wind Speed (kts)	2.2
S9	17 Sep 2019	Wind Dir	W
S9	17 Sep 2019	Animal Life	15 Seagulls
S9	17 Sep 2019	Floatables	None
S9	17 Sep 2019	Water Color	Green
S9	17 Sep 2019	Current Direction	N
S9	17 Sep 2019	Water Temp (C)	20
S9	17 Sep 2019	Wave Height Low (ft)	2
S9	17 Sep 2019	High Tide (ft)	5
S9	17 Sep 2019	High Tide Time	1116
S9	17 Sep 2019	Low Tide (ft)	1.1
S9	17 Sep 2019	Low Tide Time	510
S9	17 Sep 2019	Comments	Kelp; Seagrass; 2 Persons; Water clear
S10	03 Sep 2019	Arrive Time	837
S10	03 Sep 2019	Weather	Partly Cloudy
S10	03 Sep 2019	Wind Speed (kts)	2.1
S10	03 Sep 2019	Wind Dir	E
S10	03 Sep 2019	Animal Life	30 Godwits
S10	03 Sep 2019	Floatables	Foam; Film
S10	03 Sep 2019	Water Color	Green
S10	03 Sep 2019	Current Direction	N
S10	03 Sep 2019	Water Temp (C)	22.3
S10	03 Sep 2019	Wave Height Low (ft)	2
S10	03 Sep 2019	High Tide (ft)	5.4
S10	03 Sep 2019	High Tide Time	1246
S10	03 Sep 2019	Low Tide (ft)	0.8
S10	03 Sep 2019	Low Tide Time	628
S10	03 Sep 2019	Comments	Kelp; Seagrass; Debris; Water clear
S10	17 Sep 2019	Arrive Time	946
S10	17 Sep 2019	Weather	Sunny
S10	17 Sep 2019	Wind Speed (kts)	5.6
S10	17 Sep 2019	Wind Dir	E
S10	17 Sep 2019	Animal Life	2 Horses
S10	17 Sep 2019	Floatables	Foam; Film

Station	Date	Parameter	Value
S10	17 Sep 2019	Water Color	Yellow
S10	17 Sep 2019	Current Direction	N
S10	17 Sep 2019	Water Temp (C)	21.2
S10	17 Sep 2019	Wave Height Low (ft)	3
S10	17 Sep 2019	High Tide (ft)	5
S10	17 Sep 2019	High Tide Time	1116
S10	17 Sep 2019	Low Tide (ft)	1.1
S10	17 Sep 2019	Low Tide Time	510
S10	17 Sep 2019	Comments	Kelp; Seagrass; Debris; Sewage-like odor; 2 Persons; Water clear
S11	03 Sep 2019	Arrive Time	708
S11	03 Sep 2019	Weather	Partly Cloudy
S11	03 Sep 2019	Wind Speed (kts)	2.7
S11	03 Sep 2019	Wind Dir	E
S11	03 Sep 2019	Animal Life	14 Godwits; 10 Grebes; 9 Pelicans; 1 Seagull
S11	03 Sep 2019	Floatables	Foam; Film
S11	03 Sep 2019	Water Color	Green
S11	03 Sep 2019	Current Direction	N
S11	03 Sep 2019	Water Temp (C)	21.9
S11	03 Sep 2019	Wave Height Low (ft)	1
S11	03 Sep 2019	High Tide (ft)	5.4
S11	03 Sep 2019	High Tide Time	1246
S11	03 Sep 2019	Low Tide (ft)	0.8
S11	03 Sep 2019	Low Tide Time	628
S11	03 Sep 2019	Comments	Kelp; Seagrass; Debris; Water clear
S11	17 Sep 2019	Arrive Time	845
S11	17 Sep 2019	Weather	Sunny
S11	17 Sep 2019	Wind Speed (kts)	2.7
S11	17 Sep 2019	Wind Dir	E
S11	17 Sep 2019	Animal Life	1 Godwit
S11	17 Sep 2019	Floatables	Foam; Film
S11	17 Sep 2019	Water Color	Green
S11	17 Sep 2019	Current Direction	N
S11	17 Sep 2019	Water Temp (C)	21
S11	17 Sep 2019	Wave Height Low (ft)	2
S11	17 Sep 2019	High Tide (ft)	5
S11	17 Sep 2019	High Tide Time	1116
S11	17 Sep 2019	Low Tide (ft)	1.1
S11	17 Sep 2019	Low Tide Time	510
S11	17 Sep 2019	Comments	Kelp; Seagrass; Debris; Water clear
S12	03 Sep 2019	Arrive Time	753
S12	03 Sep 2019	Weather	Partly Cloudy
S12	03 Sep 2019	Wind Speed (kts)	3.4
S12	03 Sep 2019	Wind Dir	E
S12	03 Sep 2019	Animal Life	5 Dogs; 12 Godwits; 4 Seagulls
S12	03 Sep 2019	Floatables	Foam; Film
S12	03 Sep 2019	Water Color	Green
S12	03 Sep 2019	Current Direction	N
S12	03 Sep 2019	Water Temp (C)	22.7
S12	03 Sep 2019	Wave Height Low (ft)	1
S12	03 Sep 2019	High Tide (ft)	5.4
S12	03 Sep 2019	High Tide Time	1246
S12	03 Sep 2019	Low Tide (ft)	0.8
S12	03 Sep 2019	Low Tide Time	628
S12	03 Sep 2019	Comments	Kelp; Seagrass; 9 Persons; Water clear
S12	10 Sep 2019	Arrive Time	1205
S12	10 Sep 2019	Weather	Sunny

Station	Date	Parameter	Value
S12	10 Sep 2019	Wind Speed (kts)	9.7
S12	10 Sep 2019	Wind Dir	W
S12	10 Sep 2019	Animal Life	None
S12	10 Sep 2019	Floatables	None
S12	10 Sep 2019	Water Color	Green
S12	10 Sep 2019	Current Direction	N
S12	10 Sep 2019	Water Temp (C)	20.7
S12	10 Sep 2019	Wave Height Low (ft)	3
S12	10 Sep 2019	High Tide (ft)	4.3
S12	10 Sep 2019	High Tide Time	836
S12	10 Sep 2019	Low Tide (ft)	2
S12	10 Sep 2019	Low Tide Time	1355
S12	10 Sep 2019	Comments	Kelp; Seagrass; 1 Jogger; 8 Persons; 1 Swimmer; Water clear
S12	17 Sep 2019	Arrive Time	854
S12	17 Sep 2019	Weather	Sunny
S12	17 Sep 2019	Wind Speed (kts)	2.8
S12	17 Sep 2019	Wind Dir	W
S12	17 Sep 2019	Animal Life	2 Dogs
S12	17 Sep 2019	Floatables	None
S12	17 Sep 2019	Water Color	Green
S12	17 Sep 2019	Current Direction	N
S12	17 Sep 2019	Water Temp (C)	20
S12	17 Sep 2019	Wave Height Low (ft)	3
S12	17 Sep 2019	High Tide (ft)	5
S12	17 Sep 2019	High Tide Time	1116
S12	17 Sep 2019	Low Tide (ft)	1.1
S12	17 Sep 2019	Low Tide Time	510
S12	17 Sep 2019	Comments	Kelp; Seagrass; 2 Joggers; 2 Persons; Water clear
S12	24 Sep 2019	Arrive Time	1035
S12	24 Sep 2019	Weather	Sunny
S12	24 Sep 2019	Wind Speed (kts)	5.8
S12	24 Sep 2019	Wind Dir	W
S12	24 Sep 2019	Animal Life	None
S12	24 Sep 2019	Floatables	None
S12	24 Sep 2019	Water Color	Green
S12	24 Sep 2019	Current Direction	N
S12	24 Sep 2019	Water Temp (C)	20.1
S12	24 Sep 2019	Wave Height Low (ft)	3
S12	24 Sep 2019	High Tide (ft)	4.1
S12	24 Sep 2019	High Tide Time	718
S12	24 Sep 2019	Low Tide (ft)	2.3
S12	24 Sep 2019	Low Tide Time	1224
S12	24 Sep 2019	Comments	Kelp; Seagrass; Water clear

Kelp Stations

Table 3.1

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for total coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >1,000 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Sep 2019	17	28	12	10	15	3	12
02 Sep 2019	17	28	12	10	15	3	12
03 Sep 2019	18	37	16	11	16	5	19
04 Sep 2019	22	47	19	17	26	6	24
05 Sep 2019	22	47	19	17	26	6	24
06 Sep 2019	22	47	19	17	26	6	24
07 Sep 2019	22	47	19	17	26	6	24
08 Sep 2019	22	47	19	17	26	6	24
09 Sep 2019	22	47	19	17	26	6	24
10 Sep 2019	68	53	25	24	25	9	23
11 Sep 2019	68	53	25	24	25	9	23
12 Sep 2019	68	53	25	24	25	9	23
13 Sep 2019	68	53	25	24	25	9	23
14 Sep 2019	113	72	29	25	18	8	30
15 Sep 2019	113	72	29	25	18	8	30
16 Sep 2019	113	72	29	25	18	8	30
17 Sep 2019	51	35	17	15	12	6	17
18 Sep 2019	52	34	18	15	11	8	16
19 Sep 2019	52	34	18	15	11	8	16
20 Sep 2019	52	34	18	15	11	8	16
21 Sep 2019	52	34	18	15	11	8	16
22 Sep 2019	52	34	18	15	11	8	16
23 Sep 2019	52	34	18	15	11	8	16
24 Sep 2019	27	19	12	10	8	6	11
25 Sep 2019	27	19	12	10	8	6	11
26 Sep 2019	27	19	12	10	8	6	11
27 Sep 2019	29	14	11	9	6	8	10
28 Sep 2019	29	14	11	9	6	8	10
29 Sep 2019	29	14	11	9	6	8	10
30 Sep 2019	25	14	8	6	7	6	11

* Geometric mean calculated using n<5

Table 3.2

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for fecal coliform bacteria at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >200 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Sep 2019	2	2	2	2	2	2	2
02 Sep 2019	2	2	2	2	2	2	2
03 Sep 2019	3	2	2	2	2	2	2
04 Sep 2019	3	2	2	2	2	2	3
05 Sep 2019	3	2	2	2	2	2	3
06 Sep 2019	3	2	2	2	2	2	3
07 Sep 2019	3	2	2	2	2	2	3
08 Sep 2019	3	2	2	2	2	2	3
09 Sep 2019	3	2	2	2	2	2	3
10 Sep 2019	7	3	3	2	2	2	2
11 Sep 2019	7	3	3	2	2	2	2
12 Sep 2019	7	3	3	2	2	2	2
13 Sep 2019	7	3	3	2	2	2	2
14 Sep 2019	10	3	3	2	2	2	3
15 Sep 2019	10	3	3	2	2	2	3
16 Sep 2019	10	3	3	2	2	2	3
17 Sep 2019	7	3	3	2	2	2	2
18 Sep 2019	8	3	3	2	2	2	3
19 Sep 2019	8	3	3	2	2	2	3
20 Sep 2019	8	3	3	2	2	2	3
21 Sep 2019	8	3	3	2	2	2	3
22 Sep 2019	8	3	3	2	2	2	3
23 Sep 2019	8	3	3	2	2	2	3
24 Sep 2019	6	3	3	2	2	2	2
25 Sep 2019	6	3	3	2	2	2	2
26 Sep 2019	6	3	3	2	2	2	2
27 Sep 2019	8	3	3	2	2	2	3
28 Sep 2019	8	3	3	2	2	2	3
29 Sep 2019	8	3	3	2	2	2	3
30 Sep 2019	6	3	3	2	2	2	2

* Geometric mean calculated using n<5

Table 3.3

Summary of compliance with the Ocean Plan's 30-day Geometric Mean standard for *Enterococcus* at the SBOO kelp stations. Data are based on the geometric mean of the five most recent samples from each site over the previous 30 days unless otherwise noted (*). Values >35 CFU/100 mL exceed the standard.

Date	I19	I24	I25	I26	I32	I39	I40
01 Sep 2019	2	2	2	2	2	2	2
02 Sep 2019	2	2	2	2	2	2	2
03 Sep 2019	3	2	2	2	2	2	3
04 Sep 2019	3	3	2	2	2	2	3
05 Sep 2019	3	3	2	2	2	2	3
06 Sep 2019	3	3	2	2	2	2	3
07 Sep 2019	3	3	2	2	2	2	3
08 Sep 2019	3	3	2	2	2	2	3
09 Sep 2019	3	3	2	2	2	2	3
10 Sep 2019	9	4	4	3	2	2	3
11 Sep 2019	9	4	4	3	2	2	3
12 Sep 2019	9	4	4	3	2	2	3
13 Sep 2019	9	4	4	3	2	2	3
14 Sep 2019	14	4	4	3	2	3	4
15 Sep 2019	14	4	4	3	2	3	4
16 Sep 2019	14	4	4	3	2	3	4
17 Sep 2019	9	4	4	3	2	2	3
18 Sep 2019	14	4	4	3	2	3	3
19 Sep 2019	14	4	4	3	2	3	3
20 Sep 2019	14	4	4	3	2	3	3
21 Sep 2019	14	4	4	3	2	3	3
22 Sep 2019	14	4	4	3	2	3	3
23 Sep 2019	14	4	4	3	2	3	3
24 Sep 2019	9	3	4	3	2	2	3
25 Sep 2019	9	3	4	3	2	2	3
26 Sep 2019	9	3	4	3	2	2	3
27 Sep 2019	13	4	4	3	2	3	3
28 Sep 2019	13	4	4	3	2	3	3
29 Sep 2019	13	4	4	3	2	3	3
30 Sep 2019	9	3	4	3	2	2	3

* Geometric mean calculated using n<5

Table 3.4

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria, which states that total coliform density shall not exceed 10,000 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
03 Sep 2019	IC						
10 Sep 2019	E	IC	IC	IC	IC	IC	IC
17 Sep 2019	IC						
24 Sep 2019	IC						
30 Sep 2019	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.5

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for fecal coliform bacteria, which states that fecal coliform density shall not exceed 400 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
03 Sep 2019	IC						
10 Sep 2019	E	IC	IC	IC	IC	IC	IC
17 Sep 2019	IC						
24 Sep 2019	IC						
30 Sep 2019	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.6

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for *Enterococcus* bacteria, which states that *Enterococcus* density shall not exceed 104 CFU/100 mL.

Date	I19	I24	I25	I26	I32	I39	I40
03 Sep 2019	IC						
10 Sep 2019	E	IC	IC	IC	IC	IC	IC
17 Sep 2019	IC						
24 Sep 2019	IC						
30 Sep 2019	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.7

Summary of compliance at the SBOO kelp stations with the Ocean Plan's Single Sample Maximum standard for total coliform bacteria and the fecal/total coliform ratio (F:T), which states that total coliform density shall not exceed 1,000 CFU/100 mL when F:T > 0.1.

Date	I19	I24	I25	I26	I32	I39	I40
03 Sep 2019	IC						
10 Sep 2019	E	IC	IC	IC	IC	IC	IC
17 Sep 2019	IC						
24 Sep 2019	IC						
30 Sep 2019	IC						

IC = In Compliance

E = Exceedance

ns = not sampled

ND = no data

Table 3.8

Summary of water quality parameters at the SBOO kelp stations for each sample date. Densities of total coliform (Total), fecal coliform (Fecal) and *Enterococcus* (Enter) bacteria are reported as CFU/100 mL; the fecal:total coliform ratio (F:T) is unitless; values for temperature (Temp, °C), transmissivity (XMS, %), dissolved oxygen (DO, mg/L), salinity (Sal, ppt) and pH were extracted from CTD profile data for depths closest to those at which the bacteriological samples were collected. Comments follow the data summary.

Station	Date	Time	Depth	Total	Fecal	Enter	F:T	Temp	XMS	DO	Sal	pH
I19	03 Sep 2019	1120	2	<20	4e	<2	0.20	19.3	51.81	9.3	33.49	8.2
I19	03 Sep 2019	1120	6	40e	2e	10e	0.05	17.1	67.53	8.7	33.56	8.2
I19	03 Sep 2019	1120	11	<20	6e	6e	0.30	15.6	72.12	6.5	33.56	8.0
I19	10 Sep 2019	1127	2	1200e	240e	600e	0.20	19.4	61.56	7.7	33.45	8.1
I19	10 Sep 2019	1127	6	11000	480e	1600e	0.04	19.4	60.91	7.7	33.45	8.1
I19	10 Sep 2019	1127	11	7600	220e	1000e	0.03	19.3	56.79	7.7	33.49	8.1
I19	17 Sep 2019	1055	2	<2	<2	<2	1.00	18.4	72.99	8.9	33.58	8.2
I19	17 Sep 2019	1055	6	<2	<2	<2	1.00	17.2	43.55	9.4	33.56	8.1
I19	17 Sep 2019	1055	11	<2	2e	<2	1.00	15.7	60.66	4.5	33.56	7.9
I19	24 Sep 2019	1057	2	2e	<2	<2	1.00	21.0	70.33	8.2	33.63	8.1
I19	24 Sep 2019	1057	6	<2	<2	<2	1.00	17.7	59.60	5.9	33.63	8.0
I19	24 Sep 2019	1057	11	2e	<2	<2	1.00	14.9	62.57	3.9	33.52	7.8
I19	30 Sep 2019	1141	2	<2	<2	<2	1.00	19.8	68.59	7.9	33.61	8.1
I19	30 Sep 2019	1141	6	<20	<2	<2	0.10	18.3	60.64	7.4	33.58	8.1
I19	30 Sep 2019	1141	11	<20	<2	2e	0.10	17.2	54.98	6.9	33.52	8.0
I24	03 Sep 2019	1142	2	<20	2e	<2	0.10	19.3	63.03	10.0	33.59	8.2
I24	03 Sep 2019	1142	6	100e	8e	8e	0.08	16.2	65.86	7.9	33.55	8.1
I24	03 Sep 2019	1142	11	<200	2e	2e	0.01	15.6	69.97	6.7	33.55	8.0
I24	10 Sep 2019	1147	2	<20	<2	<2	0.10	19.5	70.46	8.4	33.55	8.2
I24	10 Sep 2019	1147	6	20e	4e	6e	0.20	19.4	69.50	8.3	33.56	8.2
I24	10 Sep 2019	1147	11	200e	10e	38e	0.05	19.1	67.66	7.9	33.56	8.1
I24	17 Sep 2019	1117	2	<2	<2	<2	1.00	17.4	77.35	7.6	33.55	8.1
I24	17 Sep 2019	1117	6	2e	<2	<2	1.00	16.2	78.22	7.1	33.54	8.1
I24	17 Sep 2019	1117	11	<2	<2	<2	1.00	15.3	75.04	4.8	33.54	7.9
I24	24 Sep 2019	1120	2	<2	<2	<2	1.00	20.9	74.40	8.0	33.64	8.1
I24	24 Sep 2019	1120	6	<2	<2	<2	1.00	16.9	74.50	5.8	33.53	7.9
I24	24 Sep 2019	1120	11	<2	<2	<2	1.00	15.4	71.05	5.0	33.52	7.8
I24	30 Sep 2019	1204	2	<2	<2	<2	1.00	20.0	64.45	7.6	33.64	8.1
I24	30 Sep 2019	1204	6	<20	<2	<2	0.10	19.5	65.17	7.4	33.60	8.1
I24	30 Sep 2019	1204	11	<20	<2	2e	0.10	17.7	47.58	6.2	33.52	8.0
I25	03 Sep 2019	1149	2	<20	<2	<2	0.10	20.4	62.93	10.2	33.64	8.3
I25	03 Sep 2019	1149	6	40e	8e	6e	0.20	16.7	65.22	8.2	33.58	8.1
I25	03 Sep 2019	1149	9	80e	2e	4e	0.02	15.9	70.95	7.3	33.55	8.0
I25	10 Sep 2019	1156	2	20e	4e	4e	0.20	19.5	63.16	8.3	33.47	8.2
I25	10 Sep 2019	1156	6	<20	10e	16e	0.50	19.2	69.39	8.1	33.56	8.2
I25	10 Sep 2019	1156	9	<200	12e	36e	0.06	18.8	68.38	7.7	33.54	8.1
I25	17 Sep 2019	1126	2	<2	<2	<2	1.00	19.8	72.15	7.8	33.61	8.1
I25	17 Sep 2019	1126	6	<2	<2	<2	1.00	16.1	76.31	6.1	33.55	8.0
I25	17 Sep 2019	1126	9	<2	<2	<2	1.00	15.8	76.33	5.2	33.54	7.9

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
I25	24 Sep 2019	1128	2	<2	<2	<2	1.00	20.3	75.45	8.2	33.64	8.1
I25	24 Sep 2019	1128	6	<2	<2	<2	1.00	16.2	72.39	7.2	33.52	8.0
I25	24 Sep 2019	1128	9	<2	<2	<2	1.00	15.2	75.36	5.3	33.52	7.9
I25	30 Sep 2019	1211	2	<2	<2	<2	1.00	20.2	73.48	8.0	33.61	8.2
I25	30 Sep 2019	1211	6	2e	<2	<2	1.00	19.7	72.16	7.9	33.59	8.1
I25	30 Sep 2019	1211	9	4e	<2	<2	0.50	18.6	68.89	7.0	33.57	8.1
I26	03 Sep 2019	1159	2	<2	<2	<2	1.00	19.8	65.42	9.7	33.65	8.2
I26	03 Sep 2019	1159	6	<20	4e	2e	0.20	16.7	61.40	8.3	33.59	8.1
I26	03 Sep 2019	1159	9	<20	<2	<2	0.10	15.6	69.75	6.4	33.56	8.0
I26	10 Sep 2019	1208	2	<20	<2	6e	0.10	19.6	69.18	8.4	33.56	8.2
I26	10 Sep 2019	1208	6	60e	<2	16e	0.03	19.4	68.85	8.2	33.55	8.2
I26	10 Sep 2019	1208	9	<200	2e	8e	0.01	18.4	70.28	7.3	33.59	8.1
I26	17 Sep 2019	1138	2	<2	<2	<2	1.00	20.7	71.48	8.1	33.60	8.2
I26	17 Sep 2019	1138	6	<2	<2	<2	1.00	16.8	72.79	7.4	33.55	8.1
I26	17 Sep 2019	1138	9	2e	<2	<2	1.00	15.9	72.89	5.5	33.55	7.9
I26	24 Sep 2019	1138	2	<2	<2	<2	1.00	20.6	75.26	8.2	33.66	8.1
I26	24 Sep 2019	1138	6	<2	<2	<2	1.00	16.2	71.60	6.8	33.57	8.0
I26	24 Sep 2019	1138	9	2e	<2	<2	1.00	15.2	72.59	4.9	33.52	7.8
I26	30 Sep 2019	1223	2	<2	<2	<2	1.00	20.2	74.46	8.2	33.62	8.2
I26	30 Sep 2019	1223	6	2e	<2	<2	1.00	19.5	72.72	7.5	33.61	8.1
I26	30 Sep 2019	1223	9	<2	<2	<2	1.00	17.5	67.16	6.4	33.54	8.0
I32	03 Sep 2019	1212	2	<20	2e	<2	0.10	20.4	68.26	8.8	33.59	8.2
I32	03 Sep 2019	1212	6	<20	<2	<2	0.10	17.0	68.26	8.2	33.57	8.1
I32	03 Sep 2019	1212	9	<20	<2	<2	0.10	15.6	71.79	7.4	33.53	8.1
I32	10 Sep 2019	1218	2	<20	<2	<2	0.10	20.3	66.06	8.1	33.57	8.2
I32	10 Sep 2019	1218	6	<20	<2	2e	0.10	19.8	69.26	8.1	33.57	8.2
I32	10 Sep 2019	1218	9	<20	<2	<2	0.10	19.8	70.48	8.0	33.56	8.2
I32	17 Sep 2019	1151	2	<2	<2	<2	1.00	19.6	70.99	7.5	33.61	8.1
I32	17 Sep 2019	1151	6	<2	<2	<2	1.00	17.5	67.41	7.3	33.56	8.1
I32	17 Sep 2019	1151	9	<2	<2	<2	1.00	16.8	69.75	7.1	33.57	8.1
I32	24 Sep 2019	1152	2	<2	<2	<2	1.00	20.9	69.20	8.0	33.63	8.1
I32	24 Sep 2019	1152	6	<2	<2	<2	1.00	16.2	66.99	5.1	33.56	7.9
I32	24 Sep 2019	1152	9	<2	<2	<2	1.00	15.4	66.04	3.1	33.52	7.7
I32	30 Sep 2019	1237	2	<2	<2	<2	1.00	20.1	72.02	8.2	33.63	8.2
I32	30 Sep 2019	1237	6	4e	<2	<2	0.50	19.7	62.86	8.0	33.61	8.2
I32	30 Sep 2019	1237	9	<20	<2	2e	0.10	17.2	44.43	6.6	33.52	8.0
I39	03 Sep 2019	1057	2	40e	<2	<2	0.05	18.5	67.12	9.2	33.60	8.2
I39	03 Sep 2019	1057	12	4e	<2	<2	0.50	14.7	71.13	5.5	33.57	7.9
I39	03 Sep 2019	1057	18	<20	<2	<2	0.10	14.3	77.59	5.0	33.56	7.9
I39	10 Sep 2019	1104	2	<20	<2	<2	0.10	19.5	79.98	8.2	33.58	8.2
I39	10 Sep 2019	1104	12	<20	<2	<2	0.10	18.8	74.61	7.8	33.57	8.2
I39	10 Sep 2019	1104	18	80e	4e	12e	0.05	15.8	75.34	5.7	33.53	7.9
I39	17 Sep 2019	1031	2	<2	<2	<2	1.00	20.3	72.86	8.1	33.63	8.2
I39	17 Sep 2019	1031	12	<2	<2	<2	1.00	15.2	78.45	5.1	33.55	7.9
I39	17 Sep 2019	1031	18	4e	<2	<2	0.50	14.6	79.84	5.2	33.55	7.9
I39	24 Sep 2019	1032	2	<2	<2	<2	1.00	20.4	76.42	8.2	33.64	8.1

Station	Date	Time	Depth	Total	Fecal	Enteric	F:T	Temp	XMS	DO	Sal	pH
I39	24 Sep 2019	1032	12	<2	<2	<2	1.00	15.2	75.63	7.1	33.52	8.0
I39	24 Sep 2019	1032	18	2e	<2	<2	1.00	14.1	81.48	5.4	33.53	7.9
I39	30 Sep 2019	1117	2	<2	<2	<2	1.00	20.0	75.18	8.1	33.62	8.2
I39	30 Sep 2019	1117	12	<2	<2	<2	1.00	16.6	81.74	7.3	33.54	8.1
I39	30 Sep 2019	1117	18	2e	<2	2e	1.00	15.2	78.18	6.6	33.51	8.0
I40	03 Sep 2019	1133	2	<20	<2	<2	0.10	20.3	54.34	10.6	33.55	8.3
I40	03 Sep 2019	1133	6	140e	10e	20e	0.07	16.8	60.85	8.5	33.55	8.1
I40	03 Sep 2019	1133	9	<200	4e	4e	0.02	16.2	65.67	7.8	33.55	8.1
I40	10 Sep 2019	1139	2	<20	<2	6e	0.10	19.9	72.62	8.3	33.57	8.2
I40	10 Sep 2019	1139	6	<20	<2	<2	0.10	19.9	72.03	8.3	33.57	8.2
I40	10 Sep 2019	1139	9	<20	<2	4e	0.10	19.8	66.73	8.2	33.57	8.2
I40	17 Sep 2019	1108	2	<2	<2	<2	1.00	18.5	73.40	7.9	33.59	8.1
I40	17 Sep 2019	1108	6	<2	<2	<2	1.00	16.4	73.09	7.4	33.56	8.1
I40	17 Sep 2019	1108	9	<2	<2	<2	1.00	15.9	57.25	5.7	33.55	8.0
I40	24 Sep 2019	1110	2	2e	<2	<2	1.00	21.1	70.67	8.2	33.65	8.1
I40	24 Sep 2019	1110	6	<2	<2	<2	1.00	16.5	69.58	5.9	33.59	8.0
I40	24 Sep 2019	1110	9	<2	<2	<2	1.00	14.9	66.70	4.5	33.53	7.8
I40	30 Sep 2019	1154	2	<20	<2	<2	0.10	19.6	56.65	7.1	33.62	8.1
I40	30 Sep 2019	1154	6	<20	<2	<2	0.10	19.3	62.33	7.4	33.59	8.1
I40	30 Sep 2019	1154	9	<20	<2	<2	0.10	18.5	67.24	7.0	33.56	8.1

ns = not sampled

ND = no data

Table 3.9

Summary of visual observations made during the month for each SBOO kelp station by sample date.

Station	Date	Parameter	Value
I19	03 Sep 2019	Depth (m)	9
I19	03 Sep 2019	Arrive Time	1120
I19	03 Sep 2019	Depart Time	1125
I19	03 Sep 2019	Air Temp (C)	22
I19	03 Sep 2019	Weather	Partly Cloudy
I19	03 Sep 2019	Visibility (mi)	5
I19	03 Sep 2019	Wind Speed (kts)	4
I19	03 Sep 2019	Wind Dir	SW
I19	03 Sep 2019	Water Color	Brownish-Green
I19	03 Sep 2019	Wave Ht Low (ft)	3
I19	03 Sep 2019	Wave Period (sec)	9
I19	03 Sep 2019	Sea State	Calm
I19	03 Sep 2019	High Tide (ft)	5.36
I19	03 Sep 2019	High Tide Time	1246
I19	03 Sep 2019	Low Tide (ft)	0.82
I19	03 Sep 2019	Low Tide Time	628
I19	03 Sep 2019	Comments	none
I19	10 Sep 2019	Depth (m)	12
I19	10 Sep 2019	Arrive Time	1127
I19	10 Sep 2019	Depart Time	1131
I19	10 Sep 2019	Air Temp (C)	20
I19	10 Sep 2019	Weather	Partly Cloudy
I19	10 Sep 2019	Visibility (mi)	7
I19	10 Sep 2019	Wind Speed (kts)	12
I19	10 Sep 2019	Wind Dir	S
I19	10 Sep 2019	Water Color	Green
I19	10 Sep 2019	Wave Ht Low (ft)	3
I19	10 Sep 2019	Wave Period (sec)	13
I19	10 Sep 2019	Sea State	Light chop
I19	10 Sep 2019	High Tide (ft)	4.29
I19	10 Sep 2019	High Tide Time	836
I19	10 Sep 2019	Low Tide (ft)	1.98
I19	10 Sep 2019	Low Tide Time	1355
I19	10 Sep 2019	Comments	Sewage-like odor
I19	17 Sep 2019	Depth (m)	13
I19	17 Sep 2019	Arrive Time	1055
I19	17 Sep 2019	Depart Time	1100
I19	17 Sep 2019	Air Temp (C)	20
I19	17 Sep 2019	Weather	Partly Cloudy
I19	17 Sep 2019	Visibility (mi)	5
I19	17 Sep 2019	Wind Speed (kts)	3
I19	17 Sep 2019	Wind Dir	NW
I19	17 Sep 2019	Water Color	Brownish-Green
I19	17 Sep 2019	Wave Ht Low (ft)	3
I19	17 Sep 2019	Wave Period (sec)	11
I19	17 Sep 2019	Sea State	Calm
I19	17 Sep 2019	High Tide (ft)	4.95
I19	17 Sep 2019	High Tide Time	1116
I19	17 Sep 2019	Low Tide (ft)	1.12
I19	17 Sep 2019	Low Tide Time	510
I19	17 Sep 2019	Comments	none
I19	24 Sep 2019	Depth (m)	12
I19	24 Sep 2019	Arrive Time	1057

Station	Date	Parameter	Value
I19	24 Sep 2019	Depart Time	1101
I19	24 Sep 2019	Air Temp (C)	20
I19	24 Sep 2019	Weather	Haze
I19	24 Sep 2019	Visibility (mi)	8
I19	24 Sep 2019	Wind Speed (kts)	8
I19	24 Sep 2019	Wind Dir	NW
I19	24 Sep 2019	Water Color	Brownish-Green
I19	24 Sep 2019	Wave Ht Low (ft)	3
I19	24 Sep 2019	Wave Period (sec)	11
I19	24 Sep 2019	Sea State	Calm
I19	24 Sep 2019	High Tide (ft)	4.07
I19	24 Sep 2019	High Tide Time	718
I19	24 Sep 2019	Low Tide (ft)	2.34
I19	24 Sep 2019	Low Tide Time	1224
I19	24 Sep 2019	Comments	none
I19	30 Sep 2019	Depth (m)	12
I19	30 Sep 2019	Arrive Time	1141
I19	30 Sep 2019	Depart Time	1146
I19	30 Sep 2019	Air Temp (C)	18
I19	30 Sep 2019	Weather	Clear
I19	30 Sep 2019	Visibility (mi)	12
I19	30 Sep 2019	Wind Speed (kts)	3
I19	30 Sep 2019	Wind Dir	W
I19	30 Sep 2019	Water Color	Green
I19	30 Sep 2019	Wave Ht Low (ft)	5
I19	30 Sep 2019	Wave Period (sec)	13
I19	30 Sep 2019	Sea State	Light chop
I19	30 Sep 2019	High Tide (ft)	6.05
I19	30 Sep 2019	High Tide Time	1039
I19	30 Sep 2019	Low Tide (ft)	0.27
I19	30 Sep 2019	Low Tide Time	433
I19	30 Sep 2019	Comments	none
I24	03 Sep 2019	Depth (m)	10
I24	03 Sep 2019	Arrive Time	1142
I24	03 Sep 2019	Depart Time	1149
I24	03 Sep 2019	Air Temp (C)	22
I24	03 Sep 2019	Weather	Partly Cloudy
I24	03 Sep 2019	Visibility (mi)	5
I24	03 Sep 2019	Wind Speed (kts)	5
I24	03 Sep 2019	Wind Dir	SW
I24	03 Sep 2019	Water Color	Brownish-Green
I24	03 Sep 2019	Wave Ht Low (ft)	3
I24	03 Sep 2019	Wave Period (sec)	9
I24	03 Sep 2019	Sea State	Calm
I24	03 Sep 2019	High Tide (ft)	5.36
I24	03 Sep 2019	High Tide Time	1246
I24	03 Sep 2019	Low Tide (ft)	0.82
I24	03 Sep 2019	Low Tide Time	628
I24	03 Sep 2019	Comments	none
I24	10 Sep 2019	Depth (m)	11
I24	10 Sep 2019	Arrive Time	1147
I24	10 Sep 2019	Depart Time	1152
I24	10 Sep 2019	Air Temp (C)	20
I24	10 Sep 2019	Weather	Partly Cloudy
I24	10 Sep 2019	Visibility (mi)	7
I24	10 Sep 2019	Wind Speed (kts)	12
I24	10 Sep 2019	Wind Dir	S
I24	10 Sep 2019	Water Color	Green

Station	Date	Parameter	Value
I24	10 Sep 2019	Wave Ht Low (ft)	5
I24	10 Sep 2019	Wave Period (sec)	13
I24	10 Sep 2019	Sea State	Light chop
I24	10 Sep 2019	High Tide (ft)	4.29
I24	10 Sep 2019	High Tide Time	836
I24	10 Sep 2019	Low Tide (ft)	1.98
I24	10 Sep 2019	Low Tide Time	1355
I24	10 Sep 2019	Comments	none
I24	17 Sep 2019	Depth (m)	12
I24	17 Sep 2019	Arrive Time	1117
I24	17 Sep 2019	Depart Time	1122
I24	17 Sep 2019	Air Temp (C)	20
I24	17 Sep 2019	Weather	Partly Cloudy
I24	17 Sep 2019	Visibility (mi)	5
I24	17 Sep 2019	Wind Speed (kts)	4
I24	17 Sep 2019	Wind Dir	SW
I24	17 Sep 2019	Water Color	Brownish-Green
I24	17 Sep 2019	Wave Ht Low (ft)	3
I24	17 Sep 2019	Wave Period (sec)	11
I24	17 Sep 2019	Sea State	Calm
I24	17 Sep 2019	High Tide (ft)	4.95
I24	17 Sep 2019	High Tide Time	1116
I24	17 Sep 2019	Low Tide (ft)	1.12
I24	17 Sep 2019	Low Tide Time	510
I24	17 Sep 2019	Comments	none
I24	24 Sep 2019	Depth (m)	11
I24	24 Sep 2019	Arrive Time	1120
I24	24 Sep 2019	Depart Time	1125
I24	24 Sep 2019	Air Temp (C)	20
I24	24 Sep 2019	Weather	Haze
I24	24 Sep 2019	Visibility (mi)	8
I24	24 Sep 2019	Wind Speed (kts)	11
I24	24 Sep 2019	Wind Dir	NW
I24	24 Sep 2019	Water Color	Brownish-Green
I24	24 Sep 2019	Wave Ht Low (ft)	3
I24	24 Sep 2019	Wave Period (sec)	11
I24	24 Sep 2019	Sea State	Calm
I24	24 Sep 2019	High Tide (ft)	4.07
I24	24 Sep 2019	High Tide Time	718
I24	24 Sep 2019	Low Tide (ft)	2.34
I24	24 Sep 2019	Low Tide Time	1224
I24	24 Sep 2019	Comments	none
I24	30 Sep 2019	Depth (m)	11
I24	30 Sep 2019	Arrive Time	1204
I24	30 Sep 2019	Depart Time	1209
I24	30 Sep 2019	Air Temp (C)	18
I24	30 Sep 2019	Weather	Clear
I24	30 Sep 2019	Visibility (mi)	12
I24	30 Sep 2019	Wind Speed (kts)	10
I24	30 Sep 2019	Wind Dir	NW
I24	30 Sep 2019	Water Color	Green
I24	30 Sep 2019	Wave Ht Low (ft)	5
I24	30 Sep 2019	Wave Period (sec)	13
I24	30 Sep 2019	Sea State	Light chop
I24	30 Sep 2019	High Tide (ft)	6.05
I24	30 Sep 2019	High Tide Time	1039
I24	30 Sep 2019	Low Tide (ft)	0.27
I24	30 Sep 2019	Low Tide Time	433

Station	Date	Parameter	Value
I24	30 Sep 2019	Comments	none
I25	03 Sep 2019	Depth (m)	11
I25	03 Sep 2019	Arrive Time	1149
I25	03 Sep 2019	Depart Time	1153
I25	03 Sep 2019	Air Temp (C)	22
I25	03 Sep 2019	Weather	Partly Cloudy
I25	03 Sep 2019	Visibility (mi)	5
I25	03 Sep 2019	Wind Speed (kts)	6
I25	03 Sep 2019	Wind Dir	W
I25	03 Sep 2019	Water Color	Brownish-Green
I25	03 Sep 2019	Wave Ht Low (ft)	3
I25	03 Sep 2019	Wave Period (sec)	9
I25	03 Sep 2019	Sea State	Calm
I25	03 Sep 2019	High Tide (ft)	5.36
I25	03 Sep 2019	High Tide Time	1246
I25	03 Sep 2019	Low Tide (ft)	0.82
I25	03 Sep 2019	Low Tide Time	628
I25	03 Sep 2019	Comments	none
I25	10 Sep 2019	Depth (m)	10
I25	10 Sep 2019	Arrive Time	1156
I25	10 Sep 2019	Depart Time	1159
I25	10 Sep 2019	Air Temp (C)	20
I25	10 Sep 2019	Weather	Partly Cloudy
I25	10 Sep 2019	Visibility (mi)	7
I25	10 Sep 2019	Wind Speed (kts)	9
I25	10 Sep 2019	Wind Dir	S
I25	10 Sep 2019	Water Color	Green
I25	10 Sep 2019	Wave Ht Low (ft)	5
I25	10 Sep 2019	Wave Period (sec)	13
I25	10 Sep 2019	Sea State	Light chop
I25	10 Sep 2019	High Tide (ft)	4.29
I25	10 Sep 2019	High Tide Time	836
I25	10 Sep 2019	Low Tide (ft)	1.98
I25	10 Sep 2019	Low Tide Time	1355
I25	10 Sep 2019	Comments	none
I25	17 Sep 2019	Depth (m)	10
I25	17 Sep 2019	Arrive Time	1126
I25	17 Sep 2019	Depart Time	1131
I25	17 Sep 2019	Air Temp (C)	20
I25	17 Sep 2019	Weather	Partly Cloudy
I25	17 Sep 2019	Visibility (mi)	5
I25	17 Sep 2019	Wind Speed (kts)	3
I25	17 Sep 2019	Wind Dir	SW
I25	17 Sep 2019	Water Color	Brownish-Green
I25	17 Sep 2019	Wave Ht Low (ft)	3
I25	17 Sep 2019	Wave Period (sec)	11
I25	17 Sep 2019	Sea State	Calm
I25	17 Sep 2019	High Tide (ft)	4.95
I25	17 Sep 2019	High Tide Time	1116
I25	17 Sep 2019	Low Tide (ft)	1.12
I25	17 Sep 2019	Low Tide Time	510
I25	17 Sep 2019	Comments	none
I25	24 Sep 2019	Depth (m)	11
I25	24 Sep 2019	Arrive Time	1128
I25	24 Sep 2019	Depart Time	1131
I25	24 Sep 2019	Air Temp (C)	20
I25	24 Sep 2019	Weather	Haze

Station	Date	Parameter	Value
I25	24 Sep 2019	Visibility (mi)	8
I25	24 Sep 2019	Wind Speed (kts)	10
I25	24 Sep 2019	Wind Dir	NW
I25	24 Sep 2019	Water Color	Brownish-Green
I25	24 Sep 2019	Wave Ht Low (ft)	3
I25	24 Sep 2019	Wave Period (sec)	11
I25	24 Sep 2019	Sea State	Calm
I25	24 Sep 2019	High Tide (ft)	4.07
I25	24 Sep 2019	High Tide Time	718
I25	24 Sep 2019	Low Tide (ft)	2.34
I25	24 Sep 2019	Low Tide Time	1224
I25	24 Sep 2019	Comments	none
I25	30 Sep 2019	Depth (m)	9
I25	30 Sep 2019	Arrive Time	1211
I25	30 Sep 2019	Depart Time	1216
I25	30 Sep 2019	Air Temp (C)	18
I25	30 Sep 2019	Weather	Clear
I25	30 Sep 2019	Visibility (mi)	12
I25	30 Sep 2019	Wind Speed (kts)	8
I25	30 Sep 2019	Wind Dir	NW
I25	30 Sep 2019	Water Color	Green
I25	30 Sep 2019	Wave Ht Low (ft)	5
I25	30 Sep 2019	Wave Period (sec)	13
I25	30 Sep 2019	Sea State	Light chop
I25	30 Sep 2019	High Tide (ft)	6.05
I25	30 Sep 2019	High Tide Time	1039
I25	30 Sep 2019	Low Tide (ft)	0.27
I25	30 Sep 2019	Low Tide Time	433
I25	30 Sep 2019	Comments	none
I26	03 Sep 2019	Depth (m)	11
I26	03 Sep 2019	Arrive Time	1159
I26	03 Sep 2019	Depart Time	1203
I26	03 Sep 2019	Air Temp (C)	22
I26	03 Sep 2019	Weather	Partly Cloudy
I26	03 Sep 2019	Visibility (mi)	5
I26	03 Sep 2019	Wind Speed (kts)	3
I26	03 Sep 2019	Wind Dir	SW
I26	03 Sep 2019	Water Color	Brownish-Green
I26	03 Sep 2019	Wave Ht Low (ft)	3
I26	03 Sep 2019	Wave Period (sec)	9
I26	03 Sep 2019	Sea State	Calm
I26	03 Sep 2019	High Tide (ft)	5.36
I26	03 Sep 2019	High Tide Time	1246
I26	03 Sep 2019	Low Tide (ft)	0.82
I26	03 Sep 2019	Low Tide Time	628
I26	03 Sep 2019	Comments	none
I26	10 Sep 2019	Depth (m)	10
I26	10 Sep 2019	Arrive Time	1208
I26	10 Sep 2019	Depart Time	1208
I26	10 Sep 2019	Air Temp (C)	20
I26	10 Sep 2019	Weather	Partly Cloudy
I26	10 Sep 2019	Visibility (mi)	7
I26	10 Sep 2019	Wind Speed (kts)	8
I26	10 Sep 2019	Wind Dir	S
I26	10 Sep 2019	Water Color	Green
I26	10 Sep 2019	Wave Ht Low (ft)	5
I26	10 Sep 2019	Wave Period (sec)	13
I26	10 Sep 2019	Sea State	Light chop

Station	Date	Parameter	Value
I26	10 Sep 2019	High Tide (ft)	4.29
I26	10 Sep 2019	High Tide Time	836
I26	10 Sep 2019	Low Tide (ft)	1.98
I26	10 Sep 2019	Low Tide Time	1355
I26	10 Sep 2019	Comments	none
I26	17 Sep 2019	Depth (m)	11
I26	17 Sep 2019	Arrive Time	1138
I26	17 Sep 2019	Depart Time	1144
I26	17 Sep 2019	Air Temp (C)	20
I26	17 Sep 2019	Weather	Partly Cloudy
I26	17 Sep 2019	Visibility (mi)	5
I26	17 Sep 2019	Wind Speed (kts)	3
I26	17 Sep 2019	Wind Dir	W
I26	17 Sep 2019	Water Color	Brownish-Green
I26	17 Sep 2019	Wave Ht Low (ft)	3
I26	17 Sep 2019	Wave Period (sec)	11
I26	17 Sep 2019	Sea State	Calm
I26	17 Sep 2019	High Tide (ft)	4.95
I26	17 Sep 2019	High Tide Time	1116
I26	17 Sep 2019	Low Tide (ft)	1.12
I26	17 Sep 2019	Low Tide Time	510
I26	17 Sep 2019	Comments	none
I26	24 Sep 2019	Depth (m)	10
I26	24 Sep 2019	Arrive Time	1138
I26	24 Sep 2019	Depart Time	1142
I26	24 Sep 2019	Air Temp (C)	20
I26	24 Sep 2019	Weather	Haze
I26	24 Sep 2019	Visibility (mi)	8
I26	24 Sep 2019	Wind Speed (kts)	11
I26	24 Sep 2019	Wind Dir	NW
I26	24 Sep 2019	Water Color	Brownish-Green
I26	24 Sep 2019	Wave Ht Low (ft)	3
I26	24 Sep 2019	Wave Period (sec)	11
I26	24 Sep 2019	Sea State	Calm
I26	24 Sep 2019	High Tide (ft)	4.07
I26	24 Sep 2019	High Tide Time	718
I26	24 Sep 2019	Low Tide (ft)	2.34
I26	24 Sep 2019	Low Tide Time	1224
I26	24 Sep 2019	Comments	none
I26	30 Sep 2019	Depth (m)	10
I26	30 Sep 2019	Arrive Time	1223
I26	30 Sep 2019	Depart Time	1225
I26	30 Sep 2019	Air Temp (C)	18
I26	30 Sep 2019	Weather	Clear
I26	30 Sep 2019	Visibility (mi)	12
I26	30 Sep 2019	Wind Speed (kts)	10
I26	30 Sep 2019	Wind Dir	NW
I26	30 Sep 2019	Water Color	Green
I26	30 Sep 2019	Wave Ht Low (ft)	5
I26	30 Sep 2019	Wave Period (sec)	13
I26	30 Sep 2019	Sea State	Light chop
I26	30 Sep 2019	High Tide (ft)	6.05
I26	30 Sep 2019	High Tide Time	1039
I26	30 Sep 2019	Low Tide (ft)	0.27
I26	30 Sep 2019	Low Tide Time	433
I26	30 Sep 2019	Comments	none
I32	03 Sep 2019	Depth (m)	12

Station	Date	Parameter	Value
I32	03 Sep 2019	Arrive Time	1212
I32	03 Sep 2019	Depart Time	1217
I32	03 Sep 2019	Air Temp (C)	22
I32	03 Sep 2019	Weather	Haze
I32	03 Sep 2019	Visibility (mi)	5
I32	03 Sep 2019	Wind Speed (kts)	4
I32	03 Sep 2019	Wind Dir	W
I32	03 Sep 2019	Water Color	Brownish-Green
I32	03 Sep 2019	Wave Ht Low (ft)	3
I32	03 Sep 2019	Wave Period (sec)	9
I32	03 Sep 2019	Sea State	Calm
I32	03 Sep 2019	High Tide (ft)	5.36
I32	03 Sep 2019	High Tide Time	1246
I32	03 Sep 2019	Low Tide (ft)	0.82
I32	03 Sep 2019	Low Tide Time	628
I32	03 Sep 2019	Comments	none
I32	10 Sep 2019	Depth (m)	11
I32	10 Sep 2019	Arrive Time	1218
I32	10 Sep 2019	Depart Time	1220
I32	10 Sep 2019	Air Temp (C)	20
I32	10 Sep 2019	Weather	Partly Cloudy
I32	10 Sep 2019	Visibility (mi)	7
I32	10 Sep 2019	Wind Speed (kts)	12
I32	10 Sep 2019	Wind Dir	SW
I32	10 Sep 2019	Water Color	Green
I32	10 Sep 2019	Wave Ht Low (ft)	5
I32	10 Sep 2019	Wave Period (sec)	13
I32	10 Sep 2019	Sea State	Light chop
I32	10 Sep 2019	High Tide (ft)	4.29
I32	10 Sep 2019	High Tide Time	836
I32	10 Sep 2019	Low Tide (ft)	1.98
I32	10 Sep 2019	Low Tide Time	1355
I32	10 Sep 2019	Comments	none
I32	17 Sep 2019	Depth (m)	11
I32	17 Sep 2019	Arrive Time	1151
I32	17 Sep 2019	Depart Time	1158
I32	17 Sep 2019	Air Temp (C)	20
I32	17 Sep 2019	Weather	Haze
I32	17 Sep 2019	Visibility (mi)	5
I32	17 Sep 2019	Wind Speed (kts)	5
I32	17 Sep 2019	Wind Dir	W
I32	17 Sep 2019	Water Color	Brownish-Green
I32	17 Sep 2019	Wave Ht Low (ft)	3
I32	17 Sep 2019	Wave Period (sec)	11
I32	17 Sep 2019	Sea State	Calm
I32	17 Sep 2019	High Tide (ft)	4.95
I32	17 Sep 2019	High Tide Time	1116
I32	17 Sep 2019	Low Tide (ft)	1.12
I32	17 Sep 2019	Low Tide Time	510
I32	17 Sep 2019	Comments	none
I32	24 Sep 2019	Depth (m)	10
I32	24 Sep 2019	Arrive Time	1152
I32	24 Sep 2019	Depart Time	1157
I32	24 Sep 2019	Air Temp (C)	20
I32	24 Sep 2019	Weather	Haze
I32	24 Sep 2019	Visibility (mi)	8
I32	24 Sep 2019	Wind Speed (kts)	11
I32	24 Sep 2019	Wind Dir	NW

Station	Date	Parameter	Value
I32	24 Sep 2019	Water Color	Brownish-Green
I32	24 Sep 2019	Wave Ht Low (ft)	3
I32	24 Sep 2019	Wave Period (sec)	11
I32	24 Sep 2019	Sea State	Calm
I32	24 Sep 2019	High Tide (ft)	4.07
I32	24 Sep 2019	High Tide Time	718
I32	24 Sep 2019	Low Tide (ft)	2.34
I32	24 Sep 2019	Low Tide Time	1224
I32	24 Sep 2019	Comments	none
I32	30 Sep 2019	Depth (m)	10
I32	30 Sep 2019	Arrive Time	1237
I32	30 Sep 2019	Depart Time	1242
I32	30 Sep 2019	Air Temp (C)	18
I32	30 Sep 2019	Weather	Clear
I32	30 Sep 2019	Visibility (mi)	12
I32	30 Sep 2019	Wind Speed (kts)	10
I32	30 Sep 2019	Wind Dir	W
I32	30 Sep 2019	Water Color	Green
I32	30 Sep 2019	Wave Ht Low (ft)	5
I32	30 Sep 2019	Wave Period (sec)	13
I32	30 Sep 2019	Sea State	Light chop
I32	30 Sep 2019	High Tide (ft)	6.05
I32	30 Sep 2019	High Tide Time	1039
I32	30 Sep 2019	Low Tide (ft)	0.27
I32	30 Sep 2019	Low Tide Time	433
I32	30 Sep 2019	Comments	none
I39	03 Sep 2019	Depth (m)	20
I39	03 Sep 2019	Arrive Time	1057
I39	03 Sep 2019	Depart Time	1059
I39	03 Sep 2019	Air Temp (C)	21
I39	03 Sep 2019	Weather	Partly Cloudy
I39	03 Sep 2019	Visibility (mi)	5
I39	03 Sep 2019	Wind Speed (kts)	6
I39	03 Sep 2019	Wind Dir	W
I39	03 Sep 2019	Water Color	Brownish-Green
I39	03 Sep 2019	Wave Ht Low (ft)	3
I39	03 Sep 2019	Wave Period (sec)	9
I39	03 Sep 2019	Sea State	Calm
I39	03 Sep 2019	High Tide (ft)	5.36
I39	03 Sep 2019	High Tide Time	1246
I39	03 Sep 2019	Low Tide (ft)	0.82
I39	03 Sep 2019	Low Tide Time	628
I39	03 Sep 2019	Comments	none
I39	10 Sep 2019	Depth (m)	19
I39	10 Sep 2019	Arrive Time	1104
I39	10 Sep 2019	Depart Time	1106
I39	10 Sep 2019	Air Temp (C)	20
I39	10 Sep 2019	Weather	Partly Cloudy
I39	10 Sep 2019	Visibility (mi)	7
I39	10 Sep 2019	Wind Speed (kts)	8
I39	10 Sep 2019	Wind Dir	S
I39	10 Sep 2019	Water Color	Green
I39	10 Sep 2019	Wave Ht Low (ft)	3
I39	10 Sep 2019	Wave Period (sec)	13
I39	10 Sep 2019	Sea State	Light chop
I39	10 Sep 2019	High Tide (ft)	4.29
I39	10 Sep 2019	High Tide Time	836
I39	10 Sep 2019	Low Tide (ft)	1.98

Station	Date	Parameter	Value
I39	10 Sep 2019	Low Tide Time	1355
I39	10 Sep 2019	Comments	none
I39	17 Sep 2019	Depth (m)	21
I39	17 Sep 2019	Arrive Time	1031
I39	17 Sep 2019	Depart Time	1035
I39	17 Sep 2019	Air Temp (C)	20
I39	17 Sep 2019	Weather	Partly Cloudy
I39	17 Sep 2019	Visibility (mi)	5
I39	17 Sep 2019	Wind Speed (kts)	0
I39	17 Sep 2019	Wind Dir	
I39	17 Sep 2019	Water Color	Brownish-Green
I39	17 Sep 2019	Wave Ht Low (ft)	3
I39	17 Sep 2019	Wave Period (sec)	11
I39	17 Sep 2019	Sea State	Calm
I39	17 Sep 2019	High Tide (ft)	4.95
I39	17 Sep 2019	High Tide Time	1116
I39	17 Sep 2019	Low Tide (ft)	1.12
I39	17 Sep 2019	Low Tide Time	510
I39	17 Sep 2019	Comments	none
I39	24 Sep 2019	Depth (m)	19
I39	24 Sep 2019	Arrive Time	1032
I39	24 Sep 2019	Depart Time	1039
I39	24 Sep 2019	Air Temp (C)	20
I39	24 Sep 2019	Weather	Haze
I39	24 Sep 2019	Visibility (mi)	5
I39	24 Sep 2019	Wind Speed (kts)	8
I39	24 Sep 2019	Wind Dir	NW
I39	24 Sep 2019	Water Color	Brownish-Green
I39	24 Sep 2019	Wave Ht Low (ft)	3
I39	24 Sep 2019	Wave Period (sec)	11
I39	24 Sep 2019	Sea State	Calm
I39	24 Sep 2019	High Tide (ft)	4.07
I39	24 Sep 2019	High Tide Time	718
I39	24 Sep 2019	Low Tide (ft)	2.34
I39	24 Sep 2019	Low Tide Time	1224
I39	24 Sep 2019	Comments	none
I39	30 Sep 2019	Depth (m)	16
I39	30 Sep 2019	Arrive Time	1117
I39	30 Sep 2019	Depart Time	1124
I39	30 Sep 2019	Air Temp (C)	18
I39	30 Sep 2019	Weather	Clear
I39	30 Sep 2019	Visibility (mi)	12
I39	30 Sep 2019	Wind Speed (kts)	5
I39	30 Sep 2019	Wind Dir	NW
I39	30 Sep 2019	Water Color	Green
I39	30 Sep 2019	Wave Ht Low (ft)	5
I39	30 Sep 2019	Wave Period (sec)	13
I39	30 Sep 2019	Sea State	Light chop
I39	30 Sep 2019	High Tide (ft)	6.05
I39	30 Sep 2019	High Tide Time	1039
I39	30 Sep 2019	Low Tide (ft)	0.27
I39	30 Sep 2019	Low Tide Time	433
I39	30 Sep 2019	Comments	Lobster floats
I40	03 Sep 2019	Depth (m)	11
I40	03 Sep 2019	Arrive Time	1133
I40	03 Sep 2019	Depart Time	1136
I40	03 Sep 2019	Air Temp (C)	22

Station	Date	Parameter	Value
I40	03 Sep 2019	Weather	Partly Cloudy
I40	03 Sep 2019	Visibility (mi)	5
I40	03 Sep 2019	Wind Speed (kts)	4
I40	03 Sep 2019	Wind Dir	SW
I40	03 Sep 2019	Water Color	Brownish-Green
I40	03 Sep 2019	Wave Ht Low (ft)	3
I40	03 Sep 2019	Wave Period (sec)	9
I40	03 Sep 2019	Sea State	Calm
I40	03 Sep 2019	High Tide (ft)	5.36
I40	03 Sep 2019	High Tide Time	1246
I40	03 Sep 2019	Low Tide (ft)	0.82
I40	03 Sep 2019	Low Tide Time	628
I40	03 Sep 2019	Comments	none
I40	10 Sep 2019	Depth (m)	11
I40	10 Sep 2019	Arrive Time	1139
I40	10 Sep 2019	Depart Time	1143
I40	10 Sep 2019	Air Temp (C)	20
I40	10 Sep 2019	Weather	Partly Cloudy
I40	10 Sep 2019	Visibility (mi)	7
I40	10 Sep 2019	Wind Speed (kts)	14
I40	10 Sep 2019	Wind Dir	SW
I40	10 Sep 2019	Water Color	Green
I40	10 Sep 2019	Wave Ht Low (ft)	3
I40	10 Sep 2019	Wave Period (sec)	13
I40	10 Sep 2019	Sea State	Light chop
I40	10 Sep 2019	High Tide (ft)	4.29
I40	10 Sep 2019	High Tide Time	836
I40	10 Sep 2019	Low Tide (ft)	1.98
I40	10 Sep 2019	Low Tide Time	1355
I40	10 Sep 2019	Comments	none
I40	17 Sep 2019	Depth (m)	12
I40	17 Sep 2019	Arrive Time	1108
I40	17 Sep 2019	Depart Time	1116
I40	17 Sep 2019	Air Temp (C)	20
I40	17 Sep 2019	Weather	Partly Cloudy
I40	17 Sep 2019	Visibility (mi)	5
I40	17 Sep 2019	Wind Speed (kts)	4
I40	17 Sep 2019	Wind Dir	W
I40	17 Sep 2019	Water Color	Brownish-Green
I40	17 Sep 2019	Wave Ht Low (ft)	3
I40	17 Sep 2019	Wave Period (sec)	11
I40	17 Sep 2019	Sea State	Calm
I40	17 Sep 2019	High Tide (ft)	4.95
I40	17 Sep 2019	High Tide Time	1116
I40	17 Sep 2019	Low Tide (ft)	1.12
I40	17 Sep 2019	Low Tide Time	510
I40	17 Sep 2019	Comments	none
I40	24 Sep 2019	Depth (m)	11
I40	24 Sep 2019	Arrive Time	1110
I40	24 Sep 2019	Depart Time	1115
I40	24 Sep 2019	Air Temp (C)	20
I40	24 Sep 2019	Weather	Haze
I40	24 Sep 2019	Visibility (mi)	8
I40	24 Sep 2019	Wind Speed (kts)	10
I40	24 Sep 2019	Wind Dir	NW
I40	24 Sep 2019	Water Color	Brownish-Green
I40	24 Sep 2019	Wave Ht Low (ft)	3
I40	24 Sep 2019	Wave Period (sec)	11

Station	Date	Parameter	Value
I40	24 Sep 2019	Sea State	Calm
I40	24 Sep 2019	High Tide (ft)	4.07
I40	24 Sep 2019	High Tide Time	718
I40	24 Sep 2019	Low Tide (ft)	2.34
I40	24 Sep 2019	Low Tide Time	1224
I40	24 Sep 2019	Comments	none
I40	30 Sep 2019	Depth (m)	11
I40	30 Sep 2019	Arrive Time	1154
I40	30 Sep 2019	Depart Time	1159
I40	30 Sep 2019	Air Temp (C)	18
I40	30 Sep 2019	Weather	Clear
I40	30 Sep 2019	Visibility (mi)	12
I40	30 Sep 2019	Wind Speed (kts)	6
I40	30 Sep 2019	Wind Dir	NW
I40	30 Sep 2019	Water Color	Green
I40	30 Sep 2019	Wave Ht Low (ft)	5
I40	30 Sep 2019	Wave Period (sec)	13
I40	30 Sep 2019	Sea State	Light chop
I40	30 Sep 2019	High Tide (ft)	6.05
I40	30 Sep 2019	High Tide Time	1039
I40	30 Sep 2019	Low Tide (ft)	0.27
I40	30 Sep 2019	Low Tide Time	433
I40	30 Sep 2019	Comments	none

Table 3.10

Summary of CTD profile data from the SBOO kelp stations for each sample date.

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I19	03 Sep 2019	1	19.69	53.03	9.9	33.46	8.2	23.7	6.44
I19	03 Sep 2019	2	19.27	51.81	9.3	33.49	8.2	23.8	7.31
I19	03 Sep 2019	3	18.10	57.13	8.6	33.53	8.1	24.1	7.72
I19	03 Sep 2019	4	17.64	59.95	8.6	33.53	8.1	24.2	8.17
I19	03 Sep 2019	5	17.42	64.06	8.8	33.55	8.1	24.3	6.90
I19	03 Sep 2019	6	17.10	67.53	8.7	33.56	8.2	24.4	6.27
I19	03 Sep 2019	7	16.89	68.08	8.2	33.55	8.1	24.4	6.38
I19	03 Sep 2019	8	16.23	66.99	7.2	33.59	8.1	24.6	6.19
I19	03 Sep 2019	9	15.80	69.31	6.7	33.57	8.0	24.7	4.99
I19	03 Sep 2019	10	15.56	72.12	6.5	33.56	8.0	24.7	4.49
I19	10 Sep 2019	1	19.48	62.66	7.7	33.45	8.1	23.7	1.74
I19	10 Sep 2019	2	19.41	61.56	7.7	33.45	8.1	23.7	2.09
I19	10 Sep 2019	3	19.41	61.86	7.7	33.44	8.1	23.7	2.51
I19	10 Sep 2019	4	19.39	61.43	7.7	33.44	8.1	23.7	2.89
I19	10 Sep 2019	5	19.38	61.16	7.7	33.44	8.1	23.7	3.21
I19	10 Sep 2019	6	19.36	60.91	7.7	33.45	8.1	23.7	3.39
I19	10 Sep 2019	7	19.35	60.65	7.7	33.45	8.1	23.7	3.58
I19	10 Sep 2019	8	19.34	60.32	7.7	33.45	8.1	23.8	3.69
I19	10 Sep 2019	9	19.33	60.05	7.7	33.47	8.1	23.8	3.57
I19	10 Sep 2019	10	19.33	56.79	7.7	33.49	8.1	23.8	3.36
I19	17 Sep 2019	1	19.00	72.27	8.7	33.57	8.2	23.9	1.47
I19	17 Sep 2019	2	18.45	72.99	8.9	33.58	8.2	24.1	2.19
I19	17 Sep 2019	3	18.38	70.29	8.8	33.52	8.1	24.0	3.12
I19	17 Sep 2019	4	17.59	64.89	8.3	33.60	8.1	24.3	5.11
I19	17 Sep 2019	5	17.44	59.48	8.4	33.53	8.1	24.3	9.51
I19	17 Sep 2019	6	17.20	43.55	9.4	33.56	8.1	24.4	26.93
I19	17 Sep 2019	7	17.03	33.52	9.7	33.53	8.2	24.4	49.53
I19	17 Sep 2019	8	16.61	46.07	8.1	33.57	8.2	24.5	40.07
I19	17 Sep 2019	9	16.16	54.60	5.8	33.56	8.1	24.6	27.15
I19	17 Sep 2019	10	15.70	60.66	4.5	33.56	7.9	24.7	19.68
I19	24 Sep 2019	1	21.04	70.36	8.3	33.63	8.1	23.4	1.55
I19	24 Sep 2019	2	21.00	70.33	8.2	33.63	8.1	23.5	1.69
I19	24 Sep 2019	3	20.75	69.78	7.9	33.64	8.1	23.5	2.20
I19	24 Sep 2019	4	20.13	68.80	7.6	33.66	8.1	23.7	3.14
I19	24 Sep 2019	5	19.21	65.69	7.1	33.63	8.1	23.9	4.83
I19	24 Sep 2019	6	17.74	59.60	5.9	33.63	8.0	24.3	8.72
I19	24 Sep 2019	7	16.11	59.48	5.0	33.61	7.9	24.6	9.16
I19	24 Sep 2019	8	15.63	63.77	4.5	33.53	7.8	24.7	7.73
I19	24 Sep 2019	9	15.16	65.11	4.2	33.54	7.8	24.8	7.70
I19	24 Sep 2019	10	14.93	62.57	3.9	33.52	7.8	24.8	7.78
I19	30 Sep 2019	1	19.91	68.87	7.9	33.61	8.1	23.7	1.73
I19	30 Sep 2019	2	19.83	68.59	7.9	33.61	8.1	23.7	2.10
I19	30 Sep 2019	3	19.66	67.52	7.8	33.61	8.1	23.8	2.90
I19	30 Sep 2019	4	19.27	67.92	7.7	33.60	8.1	23.9	3.40
I19	30 Sep 2019	5	19.06	63.39	7.5	33.59	8.1	23.9	3.51
I19	30 Sep 2019	6	18.27	60.64	7.4	33.58	8.1	24.1	3.16
I19	30 Sep 2019	7	18.17	58.18	7.5	33.54	8.1	24.1	2.83
I19	30 Sep 2019	8	18.07	55.97	7.3	33.55	8.1	24.1	2.60
I19	30 Sep 2019	9	17.47	60.20	7.1	33.56	8.1	24.3	2.21
I19	30 Sep 2019	10	17.24	54.98	6.9	33.52	8.0	24.3	1.95
I24	03 Sep 2019	1	20.30	61.83	10.5	33.52	8.3	23.6	3.20

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I24	03 Sep 2019	2	19.28	63.03	10.0	33.59	8.2	23.9	4.59
I24	03 Sep 2019	3	17.58	58.57	9.2	33.56	8.2	24.3	6.23
I24	03 Sep 2019	4	17.21	61.51	8.5	33.53	8.1	24.3	6.68
I24	03 Sep 2019	5	16.48	64.79	8.2	33.56	8.1	24.5	7.17
I24	03 Sep 2019	6	16.17	65.86	7.9	33.55	8.1	24.6	7.69
I24	03 Sep 2019	7	15.98	65.67	7.6	33.54	8.1	24.6	7.66
I24	03 Sep 2019	8	15.80	67.46	7.4	33.55	8.1	24.7	6.97
I24	03 Sep 2019	9	15.69	69.89	7.1	33.55	8.0	24.7	6.12
I24	03 Sep 2019	10	15.56	69.97	6.7	33.55	8.0	24.7	5.76
I24	10 Sep 2019	1	19.55	70.47	8.4	33.55	8.2	23.8	1.78
I24	10 Sep 2019	2	19.53	70.46	8.4	33.55	8.2	23.8	2.05
I24	10 Sep 2019	3	19.53	70.57	8.4	33.55	8.2	23.8	2.43
I24	10 Sep 2019	4	19.52	70.73	8.4	33.55	8.2	23.8	2.84
I24	10 Sep 2019	5	19.48	69.90	8.3	33.56	8.2	23.8	3.77
I24	10 Sep 2019	6	19.44	69.50	8.3	33.56	8.2	23.8	4.47
I24	10 Sep 2019	7	19.40	69.57	8.1	33.56	8.2	23.8	4.49
I24	10 Sep 2019	8	19.19	69.13	7.9	33.57	8.2	23.9	3.89
I24	10 Sep 2019	9	19.14	67.65	7.9	33.55	8.1	23.9	3.05
I24	10 Sep 2019	10	19.13	67.66	7.9	33.56	8.1	23.9	2.93
I24	17 Sep 2019	1	18.97	75.11	7.8	33.59	8.1	24.0	1.01
I24	17 Sep 2019	2	17.38	77.35	7.6	33.55	8.1	24.3	0.93
I24	17 Sep 2019	3	16.87	78.38	7.5	33.59	8.1	24.5	0.94
I24	17 Sep 2019	4	16.46	78.99	7.4	33.55	8.1	24.5	1.16
I24	17 Sep 2019	5	16.34	78.47	7.4	33.54	8.1	24.5	1.68
I24	17 Sep 2019	6	16.22	78.22	7.1	33.54	8.1	24.6	2.17
I24	17 Sep 2019	7	15.93	77.11	6.3	33.56	8.0	24.7	3.40
I24	17 Sep 2019	8	15.53	71.24	5.5	33.54	7.9	24.7	6.83
I24	17 Sep 2019	9	15.48	64.05	5.2	33.56	7.9	24.8	9.81
I24	17 Sep 2019	10	15.30	70.23	4.8	33.54	7.9	24.8	8.56
I24	17 Sep 2019	11	15.34	75.04	4.8	33.54	7.9	24.8	7.15
I24	24 Sep 2019	1	20.95	74.29	8.2	33.63	8.1	23.5	1.03
I24	24 Sep 2019	2	20.85	74.40	8.0	33.64	8.1	23.5	1.04
I24	24 Sep 2019	3	19.50	74.67	8.0	33.65	8.1	23.9	1.19
I24	24 Sep 2019	4	19.11	71.24	7.1	33.61	8.1	23.9	1.45
I24	24 Sep 2019	5	17.06	71.94	5.8	33.62	8.0	24.4	1.63
I24	24 Sep 2019	6	16.90	74.50	5.8	33.53	7.9	24.4	1.65
I24	24 Sep 2019	7	16.52	73.04	6.0	33.54	7.9	24.5	2.61
I24	24 Sep 2019	8	15.79	71.31	5.5	33.56	7.9	24.7	3.41
I24	24 Sep 2019	9	15.34	74.03	5.0	33.52	7.8	24.8	1.98
I24	24 Sep 2019	10	15.41	71.05	5.0	33.52	7.8	24.7	1.57
I24	30 Sep 2019	1	20.23	64.77	7.6	33.63	8.1	23.7	1.97
I24	30 Sep 2019	2	20.03	64.45	7.6	33.64	8.1	23.7	2.51
I24	30 Sep 2019	3	19.78	63.48	7.6	33.63	8.1	23.8	3.24
I24	30 Sep 2019	4	19.68	64.45	7.5	33.62	8.1	23.8	3.37
I24	30 Sep 2019	5	19.54	64.55	7.4	33.60	8.1	23.8	3.59
I24	30 Sep 2019	6	19.49	65.17	7.4	33.60	8.1	23.8	3.66
I24	30 Sep 2019	7	19.35	65.34	7.3	33.60	8.1	23.9	3.75
I24	30 Sep 2019	8	19.27	65.13	7.2	33.59	8.1	23.9	3.59
I24	30 Sep 2019	9	19.15	65.22	6.8	33.60	8.1	23.9	3.30
I24	30 Sep 2019	10	18.02	62.70	6.2	33.59	8.0	24.2	2.25
I24	30 Sep 2019	11	17.71	47.58	6.2	33.52	8.0	24.2	1.51
I25	03 Sep 2019	1	21.39	63.49	10.1	33.55	8.3	23.3	2.81
I25	03 Sep 2019	2	20.35	62.93	10.2	33.64	8.3	23.6	2.87
I25	03 Sep 2019	3	18.87	62.81	10.2	33.63	8.3	24.0	3.69
I25	03 Sep 2019	4	17.51	55.94	9.4	33.60	8.2	24.3	6.26
I25	03 Sep 2019	5	17.22	61.98	8.7	33.54	8.2	24.3	6.98

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I25	03 Sep 2019	6	16.74	65.22	8.2	33.58	8.1	24.5	7.21
I25	03 Sep 2019	7	15.96	66.25	7.6	33.57	8.1	24.7	7.21
I25	03 Sep 2019	8	15.91	68.17	7.4	33.55	8.1	24.7	6.81
I25	03 Sep 2019	9	15.89	70.95	7.3	33.55	8.0	24.7	5.98
I25	10 Sep 2019	1	19.50	43.84	8.3	33.18	8.2	23.5	1.89
I25	10 Sep 2019	2	19.48	63.16	8.3	33.47	8.2	23.7	2.11
I25	10 Sep 2019	3	19.45	69.72	8.3	33.55	8.2	23.8	2.73
I25	10 Sep 2019	4	19.43	69.37	8.3	33.55	8.2	23.8	3.49
I25	10 Sep 2019	5	19.37	69.40	8.2	33.56	8.2	23.8	3.98
I25	10 Sep 2019	6	19.24	69.39	8.1	33.56	8.2	23.9	3.92
I25	10 Sep 2019	7	19.05	68.96	7.8	33.56	8.2	23.9	3.40
I25	10 Sep 2019	8	18.84	68.52	7.7	33.55	8.1	24.0	2.80
I25	10 Sep 2019	9	18.83	68.38	7.7	33.54	8.1	24.0	2.52
I25	17 Sep 2019	1	20.62	62.65	8.1	33.58	8.1	23.5	0.99
I25	17 Sep 2019	2	19.81	72.15	7.8	33.61	8.1	23.8	1.06
I25	17 Sep 2019	3	17.92	77.25	7.5	33.66	8.1	24.3	1.00
I25	17 Sep 2019	4	16.96	77.64	7.5	33.54	8.1	24.4	1.10
I25	17 Sep 2019	5	16.76	77.99	7.1	33.57	8.1	24.5	1.30
I25	17 Sep 2019	6	16.08	76.31	6.1	33.55	8.0	24.6	1.88
I25	17 Sep 2019	7	15.95	76.87	5.5	33.54	8.0	24.6	1.85
I25	17 Sep 2019	8	15.92	76.50	5.3	33.54	7.9	24.6	1.90
I25	17 Sep 2019	9	15.84	76.33	5.2	33.54	7.9	24.7	2.13
I25	24 Sep 2019	1	20.81	75.63	8.2	33.63	8.1	23.5	0.83
I25	24 Sep 2019	2	20.30	75.45	8.2	33.64	8.1	23.6	0.86
I25	24 Sep 2019	3	19.44	74.98	8.2	33.67	8.1	23.9	0.94
I25	24 Sep 2019	4	18.29	75.16	8.2	33.58	8.1	24.1	1.12
I25	24 Sep 2019	5	16.60	74.33	7.7	33.60	8.1	24.5	1.50
I25	24 Sep 2019	6	16.25	72.39	7.2	33.52	8.0	24.6	2.27
I25	24 Sep 2019	7	15.82	67.95	6.4	33.55	8.0	24.7	4.69
I25	24 Sep 2019	8	15.33	74.03	5.5	33.53	7.9	24.8	5.13
I25	24 Sep 2019	9	15.22	75.36	5.3	33.52	7.9	24.8	3.57
I25	30 Sep 2019	1	20.23	72.94	8.0	33.61	8.2	23.6	1.20
I25	30 Sep 2019	2	20.20	73.48	8.0	33.61	8.2	23.6	1.23
I25	30 Sep 2019	3	19.91	72.94	8.0	33.61	8.2	23.7	1.44
I25	30 Sep 2019	4	19.78	72.78	8.0	33.59	8.2	23.7	1.78
I25	30 Sep 2019	5	19.74	72.09	8.0	33.59	8.2	23.8	2.32
I25	30 Sep 2019	6	19.70	72.16	7.9	33.59	8.1	23.8	2.66
I25	30 Sep 2019	7	19.57	72.66	7.7	33.60	8.1	23.8	2.65
I25	30 Sep 2019	8	19.00	70.21	7.2	33.60	8.1	24.0	2.69
I25	30 Sep 2019	9	18.60	68.89	7.0	33.57	8.1	24.0	2.25
I26	03 Sep 2019	1	21.25	63.47	9.5	33.59	8.2	23.4	2.69
I26	03 Sep 2019	2	19.80	65.42	9.7	33.65	8.2	23.8	2.79
I26	03 Sep 2019	3	18.92	65.14	9.8	33.59	8.2	24.0	3.62
I26	03 Sep 2019	4	18.48	61.41	9.5	33.56	8.2	24.1	5.55
I26	03 Sep 2019	5	17.73	60.46	8.9	33.62	8.2	24.3	7.06
I26	03 Sep 2019	6	16.74	61.40	8.3	33.59	8.1	24.5	7.41
I26	03 Sep 2019	7	16.34	63.01	7.7	33.58	8.1	24.6	7.67
I26	03 Sep 2019	8	15.82	65.61	6.8	33.59	8.0	24.7	7.52
I26	03 Sep 2019	9	15.55	69.75	6.4	33.56	8.0	24.7	6.83
I26	10 Sep 2019	1	19.66	65.46	8.4	33.51	8.2	23.7	2.23
I26	10 Sep 2019	2	19.62	69.18	8.4	33.56	8.2	23.8	2.49
I26	10 Sep 2019	3	19.55	69.27	8.3	33.56	8.2	23.8	2.99
I26	10 Sep 2019	4	19.48	69.27	8.3	33.56	8.2	23.8	3.59
I26	10 Sep 2019	5	19.43	68.93	8.3	33.56	8.2	23.8	4.07
I26	10 Sep 2019	6	19.39	68.85	8.2	33.55	8.2	23.8	4.24

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (µg/L)
I26	10 Sep 2019	7	19.32	69.04	8.1	33.56	8.2	23.8	4.07
I26	10 Sep 2019	8	19.17	70.06	7.7	33.56	8.2	23.9	3.52
I26	10 Sep 2019	9	18.39	70.28	7.3	33.59	8.1	24.1	2.51
I26	17 Sep 2019	1	20.94	71.40	8.2	33.58	8.2	23.4	1.12
I26	17 Sep 2019	2	20.69	71.48	8.1	33.60	8.2	23.5	1.20
I26	17 Sep 2019	3	20.09	70.97	7.9	33.59	8.1	23.7	1.45
I26	17 Sep 2019	4	18.47	71.95	7.8	33.63	8.1	24.1	1.46
I26	17 Sep 2019	5	17.34	75.65	7.7	33.58	8.1	24.3	1.54
I26	17 Sep 2019	6	16.84	72.79	7.4	33.55	8.1	24.4	3.14
I26	17 Sep 2019	7	16.74	70.22	6.9	33.53	8.1	24.4	5.32
I26	17 Sep 2019	8	16.46	71.04	6.0	33.55	8.0	24.5	5.30
I26	17 Sep 2019	9	15.92	72.89	5.5	33.55	7.9	24.6	4.13
I26	24 Sep 2019	1	20.92	75.05	8.3	33.63	8.1	23.5	0.85
I26	24 Sep 2019	2	20.63	75.26	8.2	33.66	8.1	23.6	0.85
I26	24 Sep 2019	3	18.84	74.98	8.3	33.67	8.1	24.0	0.99
I26	24 Sep 2019	4	17.44	74.32	8.3	33.58	8.1	24.3	1.27
I26	24 Sep 2019	5	16.75	73.42	7.9	33.55	8.1	24.5	1.69
I26	24 Sep 2019	6	16.19	71.60	6.8	33.57	8.0	24.6	2.48
I26	24 Sep 2019	7	15.51	68.95	5.7	33.52	7.9	24.7	5.16
I26	24 Sep 2019	8	15.31	71.65	5.1	33.53	7.9	24.8	5.16
I26	24 Sep 2019	9	15.20	72.59	4.9	33.52	7.8	24.8	3.17
I26	30 Sep 2019	1	20.25	74.19	8.2	33.60	8.2	23.6	1.26
I26	30 Sep 2019	2	20.18	74.46	8.2	33.62	8.2	23.7	1.37
I26	30 Sep 2019	3	20.07	74.12	8.1	33.62	8.2	23.7	1.66
I26	30 Sep 2019	4	19.96	73.19	8.1	33.62	8.2	23.7	2.21
I26	30 Sep 2019	5	19.76	71.38	8.0	33.61	8.2	23.8	3.13
I26	30 Sep 2019	6	19.48	72.72	7.5	33.61	8.1	23.8	3.13
I26	30 Sep 2019	7	18.43	70.03	6.9	33.58	8.1	24.1	2.32
I26	30 Sep 2019	8	18.10	67.83	6.5	33.55	8.0	24.1	1.92
I26	30 Sep 2019	9	17.52	67.16	6.4	33.54	8.0	24.3	1.44
I32	03 Sep 2019	1	20.90	68.00	8.5	33.58	8.2	23.4	1.85
I32	03 Sep 2019	2	20.38	68.26	8.8	33.59	8.2	23.6	2.14
I32	03 Sep 2019	3	19.77	67.58	8.5	33.60	8.2	23.8	2.83
I32	03 Sep 2019	4	18.76	66.85	8.4	33.62	8.2	24.0	3.60
I32	03 Sep 2019	5	17.62	66.61	8.4	33.60	8.1	24.3	4.43
I32	03 Sep 2019	6	17.00	68.26	8.2	33.57	8.1	24.4	4.81
I32	03 Sep 2019	7	16.36	69.98	7.7	33.54	8.1	24.5	4.97
I32	03 Sep 2019	8	16.02	70.90	7.5	33.53	8.1	24.6	4.74
I32	03 Sep 2019	9	15.61	71.79	7.4	33.53	8.1	24.7	5.07
I32	03 Sep 2019	10	15.25	70.57	7.2	33.51	8.0	24.8	6.34
I32	10 Sep 2019	1	20.27	65.64	8.1	33.56	8.2	23.6	1.41
I32	10 Sep 2019	2	20.26	66.06	8.1	33.57	8.2	23.6	1.52
I32	10 Sep 2019	3	20.19	69.59	8.1	33.58	8.2	23.6	1.85
I32	10 Sep 2019	4	20.02	69.82	8.1	33.58	8.2	23.7	2.55
I32	10 Sep 2019	5	19.89	69.52	8.1	33.57	8.2	23.7	3.13
I32	10 Sep 2019	6	19.80	69.26	8.1	33.57	8.2	23.7	3.56
I32	10 Sep 2019	7	19.78	69.61	8.1	33.56	8.2	23.7	3.60
I32	10 Sep 2019	8	19.77	70.03	8.1	33.56	8.2	23.7	3.51
I32	10 Sep 2019	9	19.75	70.48	8.0	33.56	8.2	23.7	3.26
I32	10 Sep 2019	10	19.69	70.29	8.0	33.56	8.2	23.7	2.73
I32	17 Sep 2019	1	20.15	71.21	7.7	33.58	8.1	23.6	1.31
I32	17 Sep 2019	2	19.63	70.99	7.5	33.61	8.1	23.8	1.49
I32	17 Sep 2019	3	18.72	69.72	7.3	33.59	8.1	24.0	2.12
I32	17 Sep 2019	4	18.10	67.75	7.5	33.58	8.1	24.2	3.36
I32	17 Sep 2019	5	17.78	66.28	7.7	33.55	8.1	24.2	4.28

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I32	17 Sep 2019	6	17.48	67.41	7.3	33.56	8.1	24.3	4.99
I32	17 Sep 2019	7	17.30	68.41	7.1	33.55	8.1	24.3	5.32
I32	17 Sep 2019	8	17.29	68.54	7.0	33.54	8.1	24.3	5.31
I32	17 Sep 2019	9	16.83	69.75	7.1	33.57	8.1	24.5	6.06
I32	17 Sep 2019	10	16.54	68.38	6.8	33.54	8.1	24.5	7.82
I32	24 Sep 2019	1	21.01	69.16	8.2	33.62	8.1	23.4	1.53
I32	24 Sep 2019	2	20.95	69.20	8.0	33.63	8.1	23.5	1.62
I32	24 Sep 2019	3	19.71	69.22	7.7	33.68	8.1	23.8	1.91
I32	24 Sep 2019	4	18.99	67.31	6.9	33.59	8.1	23.9	2.21
I32	24 Sep 2019	5	16.95	66.00	5.6	33.60	8.0	24.5	2.79
I32	24 Sep 2019	6	16.20	66.99	5.1	33.56	7.9	24.6	3.23
I32	24 Sep 2019	7	15.89	68.38	4.6	33.53	7.8	24.6	3.75
I32	24 Sep 2019	8	15.47	68.92	3.8	33.53	7.8	24.7	5.12
I32	24 Sep 2019	9	15.37	66.04	3.1	33.52	7.7	24.8	4.92
I32	24 Sep 2019	10	15.36	63.36	2.9	33.52	7.7	24.8	4.07
I32	30 Sep 2019	1	20.25	73.33	8.2	33.62	8.2	23.6	1.38
I32	30 Sep 2019	2	20.07	72.02	8.2	33.63	8.2	23.7	1.98
I32	30 Sep 2019	3	19.98	69.76	8.3	33.62	8.2	23.7	3.57
I32	30 Sep 2019	4	19.87	67.44	8.2	33.62	8.2	23.7	5.85
I32	30 Sep 2019	5	19.83	66.93	8.1	33.61	8.2	23.7	6.26
I32	30 Sep 2019	6	19.73	62.86	8.0	33.61	8.2	23.8	5.55
I32	30 Sep 2019	7	19.55	50.31	7.4	33.62	8.1	23.8	4.54
I32	30 Sep 2019	8	17.50	29.89	6.6	33.61	8.1	24.3	2.73
I32	30 Sep 2019	9	17.20	44.43	6.6	33.52	8.0	24.3	1.72
I32	30 Sep 2019	10	17.15	38.44	6.6	33.51	8.0	24.3	1.60
I39	03 Sep 2019	1	19.27	68.93	9.2	33.57	8.2	23.9	2.94
I39	03 Sep 2019	2	18.46	67.12	9.2	33.60	8.2	24.1	3.55
I39	03 Sep 2019	3	17.51	67.28	9.1	33.61	8.2	24.3	4.03
I39	03 Sep 2019	4	16.93	66.89	8.6	33.57	8.2	24.4	5.18
I39	03 Sep 2019	5	15.97	65.38	8.0	33.61	8.1	24.7	6.22
I39	03 Sep 2019	6	15.34	67.01	7.5	33.57	8.1	24.8	7.01
I39	03 Sep 2019	7	15.02	68.41	6.8	33.57	8.0	24.9	6.89
I39	03 Sep 2019	8	14.91	69.92	6.3	33.56	8.0	24.9	7.26
I39	03 Sep 2019	9	14.89	68.34	5.9	33.56	7.9	24.9	8.03
I39	03 Sep 2019	10	14.85	68.05	5.8	33.56	7.9	24.9	7.97
I39	03 Sep 2019	11	14.79	69.88	5.7	33.56	7.9	24.9	7.15
I39	03 Sep 2019	12	14.70	71.13	5.5	33.57	7.9	24.9	6.46
I39	03 Sep 2019	13	14.50	72.43	5.5	33.56	7.9	25.0	5.87
I39	03 Sep 2019	14	14.42	74.03	5.5	33.55	7.9	25.0	5.49
I39	03 Sep 2019	15	14.42	74.65	5.4	33.55	7.9	25.0	5.20
I39	03 Sep 2019	16	14.36	75.06	5.3	33.55	7.9	25.0	4.97
I39	03 Sep 2019	17	14.32	75.87	5.2	33.56	7.9	25.0	4.30
I39	03 Sep 2019	18	14.30	77.59	5.0	33.56	7.9	25.0	3.70
I39	10 Sep 2019	1	19.53	80.38	8.2	33.58	8.2	23.8	0.78
I39	10 Sep 2019	2	19.54	79.98	8.2	33.58	8.2	23.8	0.79
I39	10 Sep 2019	3	19.51	80.52	8.3	33.58	8.2	23.8	0.90
I39	10 Sep 2019	4	19.45	80.08	8.3	33.58	8.2	23.8	1.12
I39	10 Sep 2019	5	19.45	79.55	8.3	33.58	8.2	23.8	1.33
I39	10 Sep 2019	6	19.44	79.30	8.2	33.58	8.2	23.8	1.64
I39	10 Sep 2019	7	19.42	78.91	8.3	33.58	8.2	23.8	1.87
I39	10 Sep 2019	8	19.38	77.94	8.3	33.58	8.2	23.8	2.19
I39	10 Sep 2019	9	19.31	77.09	8.2	33.57	8.2	23.9	2.53
I39	10 Sep 2019	10	19.11	76.08	8.2	33.58	8.2	23.9	2.87
I39	10 Sep 2019	11	18.98	75.35	8.1	33.56	8.2	23.9	3.07
I39	10 Sep 2019	12	18.82	74.61	7.8	33.57	8.2	24.0	3.28
I39	10 Sep 2019	13	18.29	73.69	7.4	33.58	8.1	24.1	3.19
I39	10 Sep 2019	14	17.56	73.98	6.9	33.56	8.1	24.3	2.80

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens (σ-t)	Chlor (μg/L)
I39	10 Sep 2019	15	16.86	74.53	6.3	33.57	8.0	24.5	2.11
I39	10 Sep 2019	16	16.35	74.47	5.9	33.56	8.0	24.6	1.64
I39	10 Sep 2019	17	15.75	74.78	5.7	33.58	8.0	24.7	1.38
I39	10 Sep 2019	18	15.83	75.34	5.7	33.53	7.9	24.7	1.20
I39	17 Sep 2019	1	20.85	73.14	8.4	33.59	8.2	23.5	1.03
I39	17 Sep 2019	2	20.34	72.86	8.1	33.63	8.2	23.6	1.16
I39	17 Sep 2019	3	19.11	73.17	7.9	33.64	8.2	24.0	1.56
I39	17 Sep 2019	4	18.62	74.47	7.9	33.57	8.1	24.0	1.91
I39	17 Sep 2019	5	18.15	75.59	7.6	33.60	8.1	24.2	1.97
I39	17 Sep 2019	6	16.95	77.76	7.3	33.61	8.1	24.5	1.83
I39	17 Sep 2019	7	15.92	79.78	7.0	33.58	8.1	24.7	1.76
I39	17 Sep 2019	8	15.65	80.08	6.5	33.54	8.0	24.7	1.87
I39	17 Sep 2019	9	15.59	79.74	6.3	33.54	8.0	24.7	2.15
I39	17 Sep 2019	10	15.45	79.19	5.9	33.54	8.0	24.8	2.50
I39	17 Sep 2019	11	15.34	78.94	5.5	33.54	8.0	24.8	2.85
I39	17 Sep 2019	12	15.19	78.45	5.1	33.55	7.9	24.8	3.05
I39	17 Sep 2019	13	15.21	78.90	5.0	33.54	7.9	24.8	2.95
I39	17 Sep 2019	14	15.02	79.23	5.0	33.56	7.9	24.9	2.86
I39	17 Sep 2019	15	14.72	80.27	5.2	33.55	7.9	24.9	2.71
I39	17 Sep 2019	16	14.69	80.73	5.3	33.54	7.9	24.9	2.78
I39	17 Sep 2019	17	14.67	79.76	5.3	33.55	7.9	24.9	3.31
I39	17 Sep 2019	18	14.62	79.84	5.2	33.55	7.9	24.9	3.09
I39	24 Sep 2019	1	20.48	76.56	8.2	33.64	8.1	23.6	0.76
I39	24 Sep 2019	2	20.42	76.42	8.2	33.64	8.1	23.6	0.80
I39	24 Sep 2019	3	20.15	75.55	8.1	33.64	8.1	23.7	1.00
I39	24 Sep 2019	4	19.85	75.60	8.0	33.63	8.1	23.8	1.35
I39	24 Sep 2019	5	19.12	75.72	7.9	33.66	8.1	24.0	1.68
I39	24 Sep 2019	6	18.24	74.91	7.8	33.60	8.1	24.1	2.13
I39	24 Sep 2019	7	17.76	73.68	7.7	33.60	8.1	24.3	2.56
I39	24 Sep 2019	8	17.25	72.97	7.4	33.58	8.1	24.4	2.97
I39	24 Sep 2019	9	16.64	72.97	7.3	33.59	8.1	24.5	3.22
I39	24 Sep 2019	10	16.17	74.04	7.2	33.54	8.0	24.6	3.36
I39	24 Sep 2019	11	15.65	74.77	7.1	33.54	8.0	24.7	3.54
I39	24 Sep 2019	12	15.19	75.63	7.1	33.52	8.0	24.8	3.76
I39	24 Sep 2019	13	14.96	76.44	7.1	33.51	8.0	24.8	4.01
I39	24 Sep 2019	14	14.82	77.07	7.1	33.50	8.0	24.9	4.10
I39	24 Sep 2019	15	14.72	77.97	6.9	33.51	8.0	24.9	3.85
I39	24 Sep 2019	16	14.21	80.06	6.1	33.54	8.0	25.0	3.32
I39	24 Sep 2019	17	14.08	81.12	5.6	33.53	7.9	25.0	2.79
I39	24 Sep 2019	18	14.07	81.48	5.4	33.53	7.9	25.0	2.36
I39	30 Sep 2019	1	20.16	75.41	8.1	33.61	8.2	23.7	1.07
I39	30 Sep 2019	2	20.02	75.18	8.1	33.62	8.2	23.7	1.26
I39	30 Sep 2019	3	19.90	74.59	8.1	33.60	8.2	23.7	1.62
I39	30 Sep 2019	4	19.87	74.20	8.1	33.60	8.2	23.7	2.04
I39	30 Sep 2019	5	19.81	73.91	8.1	33.60	8.2	23.7	2.57
I39	30 Sep 2019	6	19.78	74.15	7.8	33.59	8.2	23.7	2.76
I39	30 Sep 2019	7	18.25	75.86	7.4	33.62	8.1	24.1	2.10
I39	30 Sep 2019	8	17.62	79.01	7.4	33.52	8.1	24.2	1.57
I39	30 Sep 2019	9	17.47	80.48	7.4	33.51	8.1	24.3	1.45
I39	30 Sep 2019	10	17.18	80.92	7.4	33.52	8.1	24.3	1.47
I39	30 Sep 2019	11	16.90	80.91	7.4	33.50	8.1	24.4	1.43
I39	30 Sep 2019	12	16.60	81.74	7.3	33.54	8.1	24.5	1.30
I39	30 Sep 2019	13	16.16	82.12	7.2	33.52	8.1	24.6	1.16
I39	30 Sep 2019	14	16.01	81.05	7.0	33.51	8.0	24.6	1.05
I39	30 Sep 2019	15	15.63	79.37	6.9	33.52	8.0	24.7	1.01
I39	30 Sep 2019	16	15.54	79.18	6.9	33.50	8.0	24.7	0.96
I39	30 Sep 2019	17	15.40	78.66	6.8	33.52	8.0	24.7	0.94
I39	30 Sep 2019	18	15.15	78.18	6.6	33.51	8.0	24.8	0.87

Station	Date	Depth (m)	Temp (°C)	XMS (%)	DO (mg/L)	Sal (ppt)	pH	Dens ($\sigma\text{-t}$)	Chlor ($\mu\text{g/L}$)
I40	03 Sep 2019	1	20.91	56.10	10.8	33.53	8.3	23.4	4.69
I40	03 Sep 2019	2	20.26	54.34	10.6	33.55	8.3	23.6	5.51
I40	03 Sep 2019	3	19.19	53.03	9.9	33.55	8.2	23.9	7.08
I40	03 Sep 2019	4	17.73	56.08	9.5	33.58	8.2	24.2	7.78
I40	03 Sep 2019	5	17.10	58.12	9.1	33.55	8.2	24.4	8.70
I40	03 Sep 2019	6	16.76	60.85	8.5	33.55	8.1	24.5	8.40
I40	03 Sep 2019	7	16.47	65.04	8.2	33.55	8.1	24.5	7.76
I40	03 Sep 2019	8	16.38	66.08	8.0	33.54	8.1	24.5	7.71
I40	03 Sep 2019	9	16.22	65.67	7.8	33.55	8.1	24.6	7.62
I40	03 Sep 2019	10	16.18	65.38	7.5	33.55	8.0	24.6	7.22
I40	10 Sep 2019	1	19.93	72.24	8.3	33.56	8.2	23.7	1.33
I40	10 Sep 2019	2	19.92	72.62	8.3	33.57	8.2	23.7	1.41
I40	10 Sep 2019	3	19.86	71.95	8.3	33.57	8.2	23.7	1.92
I40	10 Sep 2019	4	19.86	72.05	8.3	33.57	8.2	23.7	2.31
I40	10 Sep 2019	5	19.87	72.12	8.3	33.57	8.2	23.7	2.56
I40	10 Sep 2019	6	19.86	72.03	8.3	33.57	8.2	23.7	2.79
I40	10 Sep 2019	7	19.80	71.34	8.3	33.57	8.2	23.7	3.15
I40	10 Sep 2019	8	19.81	71.58	8.2	33.57	8.2	23.7	3.26
I40	10 Sep 2019	9	19.76	66.73	8.2	33.57	8.2	23.7	3.04
I40	10 Sep 2019	10	19.75	60.54	8.2	33.57	8.2	23.7	2.91
I40	17 Sep 2019	1	18.60	73.84	8.0	33.54	8.1	24.0	1.01
I40	17 Sep 2019	2	18.47	73.40	7.9	33.59	8.1	24.1	0.99
I40	17 Sep 2019	3	17.39	75.40	8.2	33.57	8.1	24.3	1.13
I40	17 Sep 2019	4	17.39	75.61	8.1	33.56	8.1	24.3	1.36
I40	17 Sep 2019	5	16.75	74.51	8.0	33.56	8.1	24.5	2.10
I40	17 Sep 2019	6	16.45	73.09	7.4	33.56	8.1	24.5	3.75
I40	17 Sep 2019	7	16.30	69.88	6.7	33.55	8.0	24.6	5.82
I40	17 Sep 2019	8	16.03	69.26	6.0	33.55	8.0	24.6	8.86
I40	17 Sep 2019	9	15.92	57.25	5.7	33.55	8.0	24.6	18.24
I40	17 Sep 2019	10	15.93	62.63	5.4	33.54	7.9	24.6	18.82
I40	24 Sep 2019	1	21.20	70.60	8.2	33.64	8.1	23.4	1.44
I40	24 Sep 2019	2	21.11	70.67	8.2	33.65	8.1	23.4	1.51
I40	24 Sep 2019	3	20.86	71.77	8.2	33.65	8.2	23.5	1.74
I40	24 Sep 2019	4	20.47	71.22	7.5	33.66	8.1	23.6	2.11
I40	24 Sep 2019	5	18.21	68.42	6.5	33.72	8.1	24.2	2.82
I40	24 Sep 2019	6	16.48	69.58	5.9	33.59	8.0	24.6	4.43
I40	24 Sep 2019	7	15.57	68.22	5.3	33.57	7.9	24.7	7.65
I40	24 Sep 2019	8	15.17	66.90	4.8	33.54	7.8	24.8	7.73
I40	24 Sep 2019	9	14.93	66.70	4.5	33.53	7.8	24.9	4.29
I40	24 Sep 2019	10	15.09	60.42	4.6	33.48	7.8	24.8	2.28
I40	30 Sep 2019	1	19.84	54.44	7.0	33.62	8.1	23.8	1.25
I40	30 Sep 2019	2	19.62	56.65	7.1	33.62	8.1	23.8	1.56
I40	30 Sep 2019	3	19.39	56.21	7.4	33.61	8.1	23.9	2.50
I40	30 Sep 2019	4	19.38	58.46	7.4	33.60	8.1	23.9	3.00
I40	30 Sep 2019	5	19.33	59.75	7.4	33.59	8.1	23.9	3.14
I40	30 Sep 2019	6	19.28	62.33	7.4	33.59	8.1	23.9	2.94
I40	30 Sep 2019	7	19.14	69.90	7.4	33.58	8.1	23.9	2.70
I40	30 Sep 2019	8	18.86	70.50	7.2	33.58	8.1	24.0	2.30
I40	30 Sep 2019	9	18.49	67.24	7.0	33.56	8.1	24.1	1.93
I40	30 Sep 2019	10	18.02	60.46	6.7	33.58	8.1	24.2	1.67

NA = not available

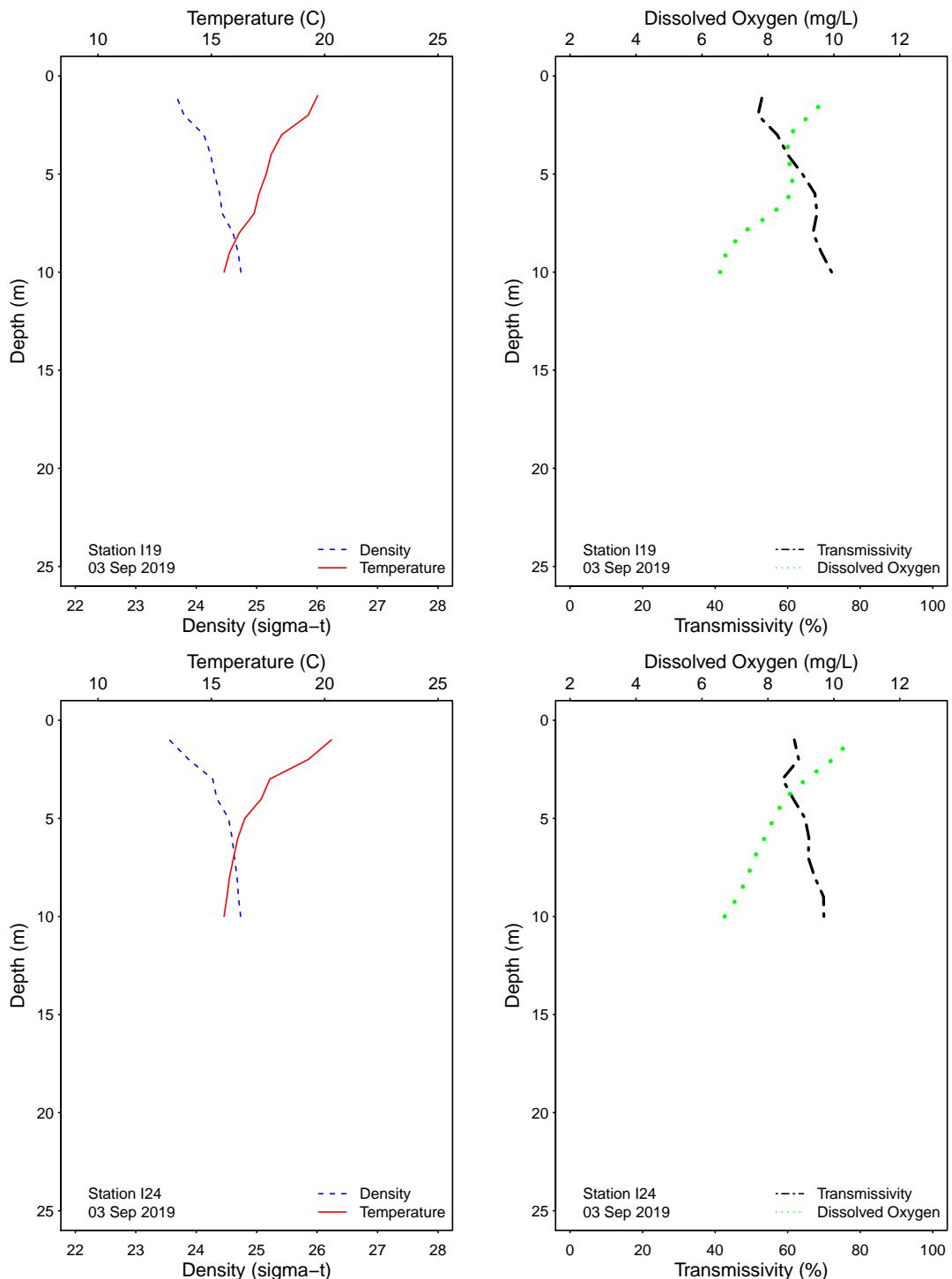


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

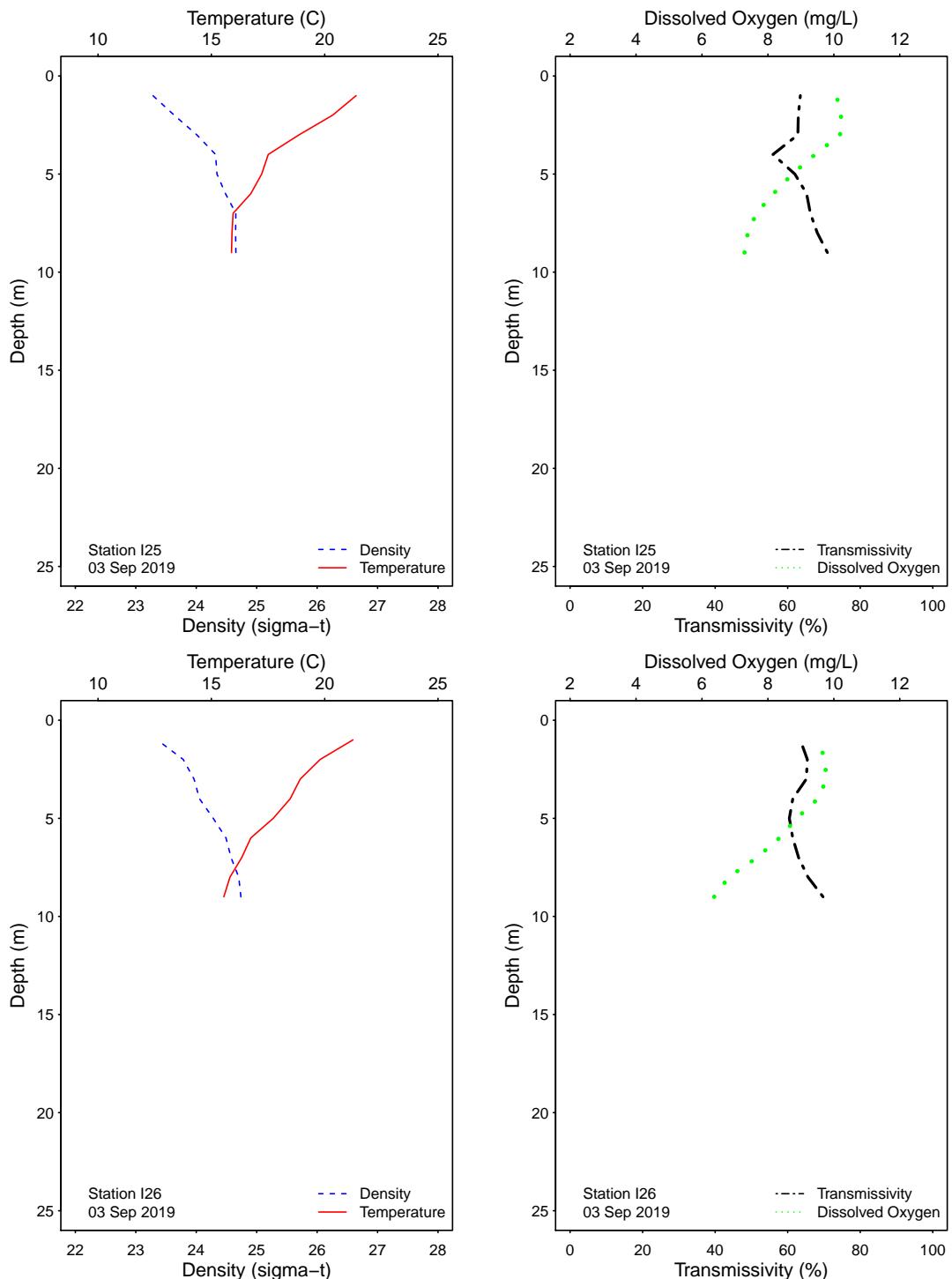


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

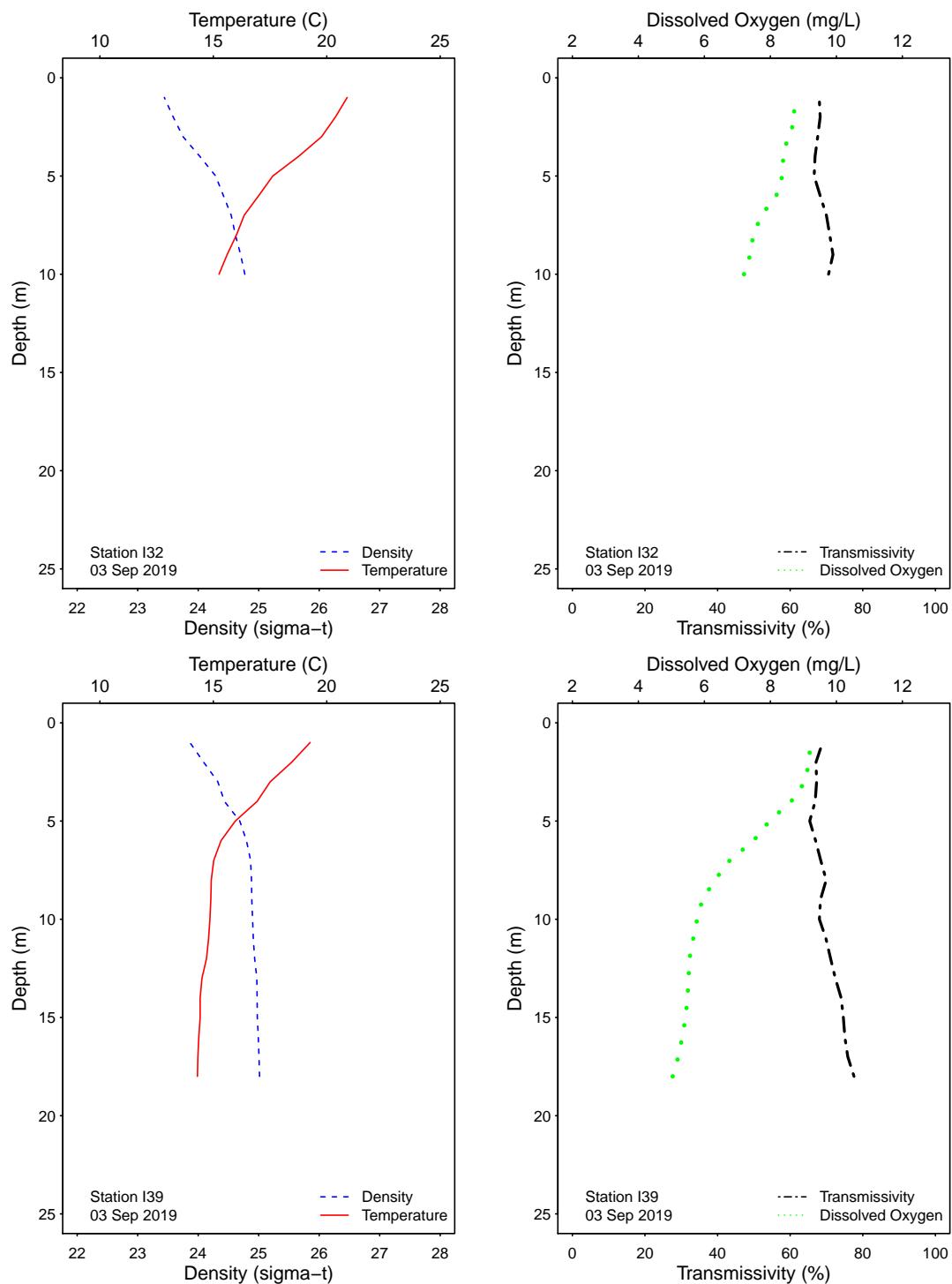


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

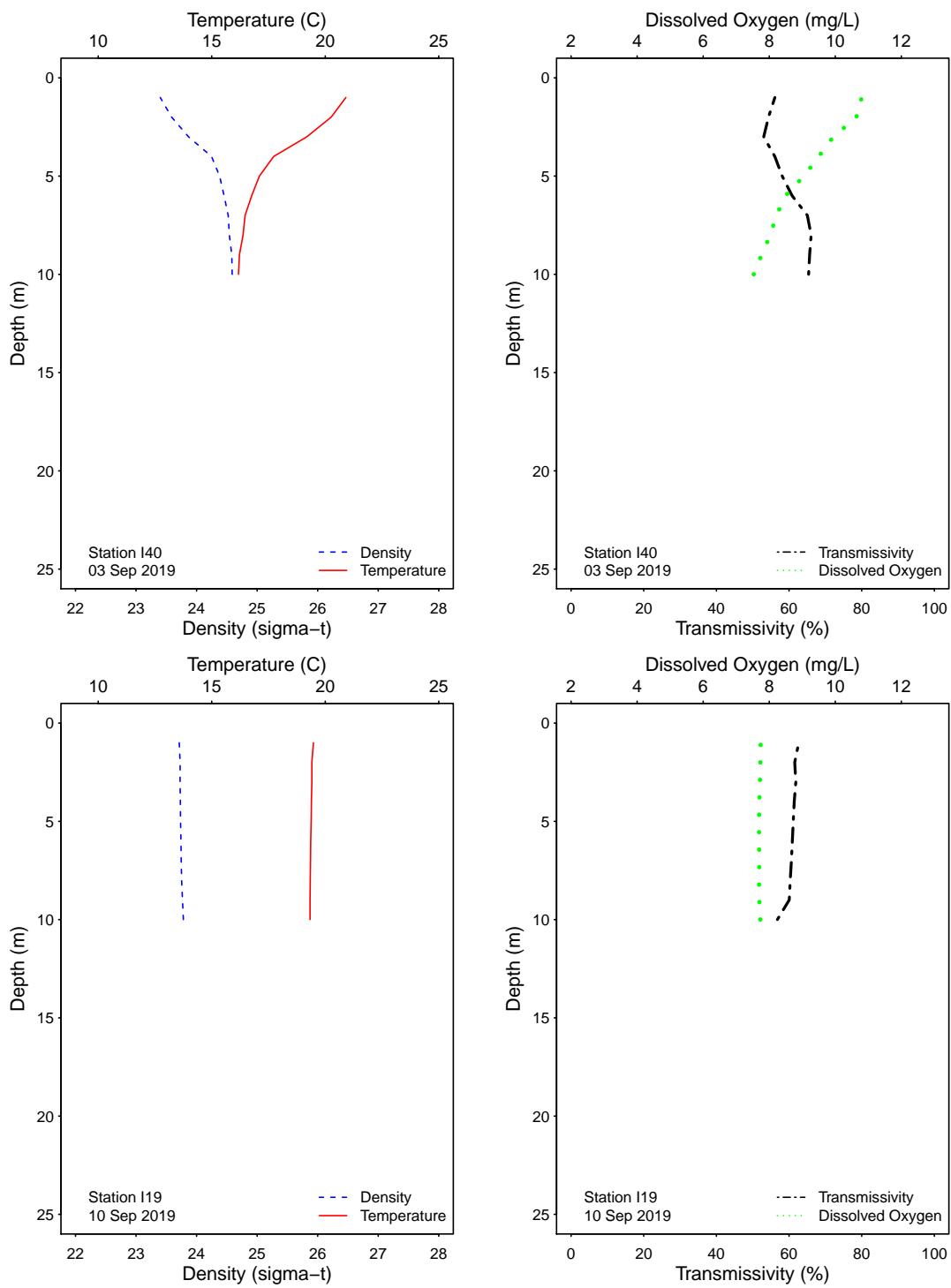


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

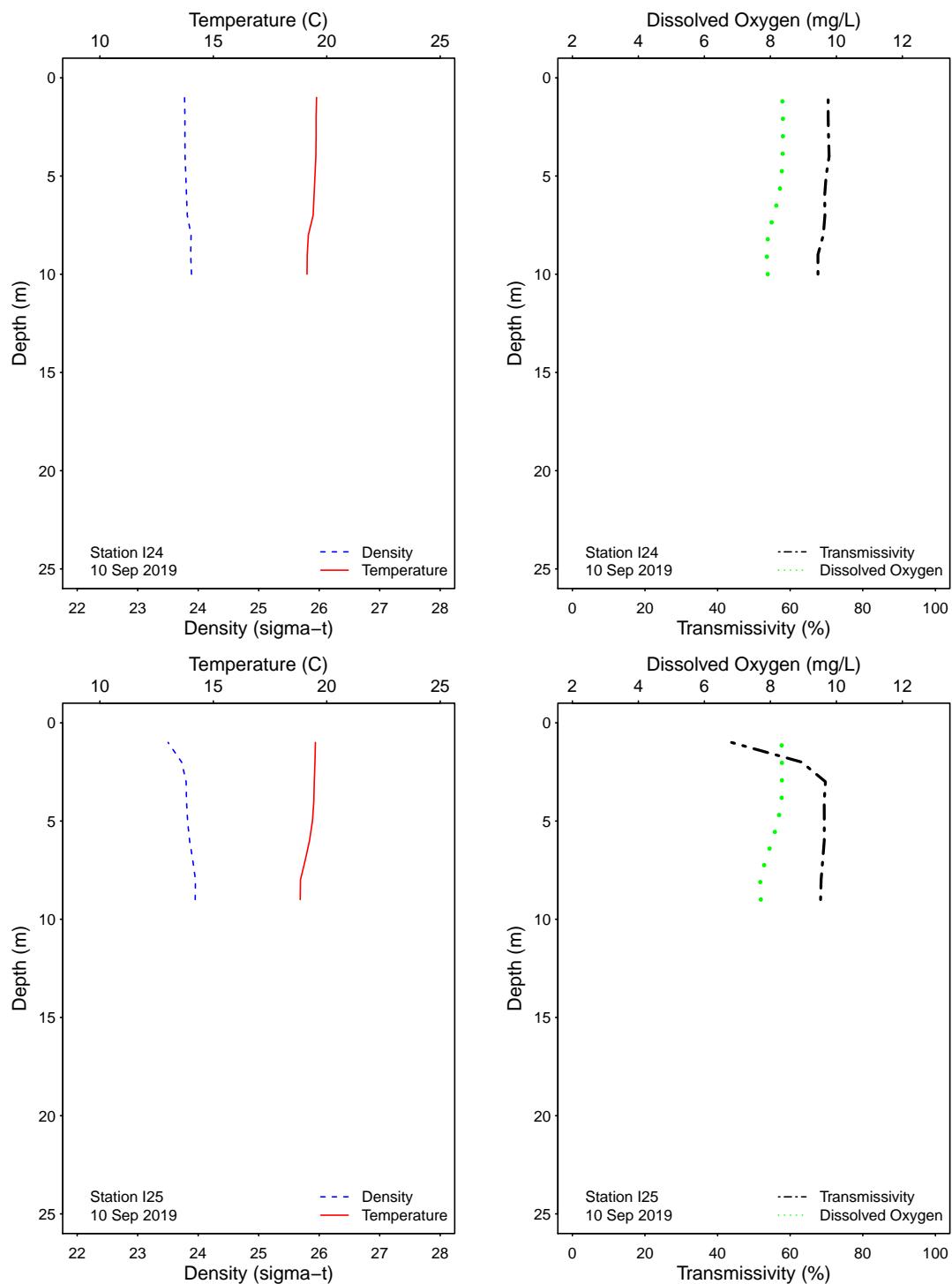


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

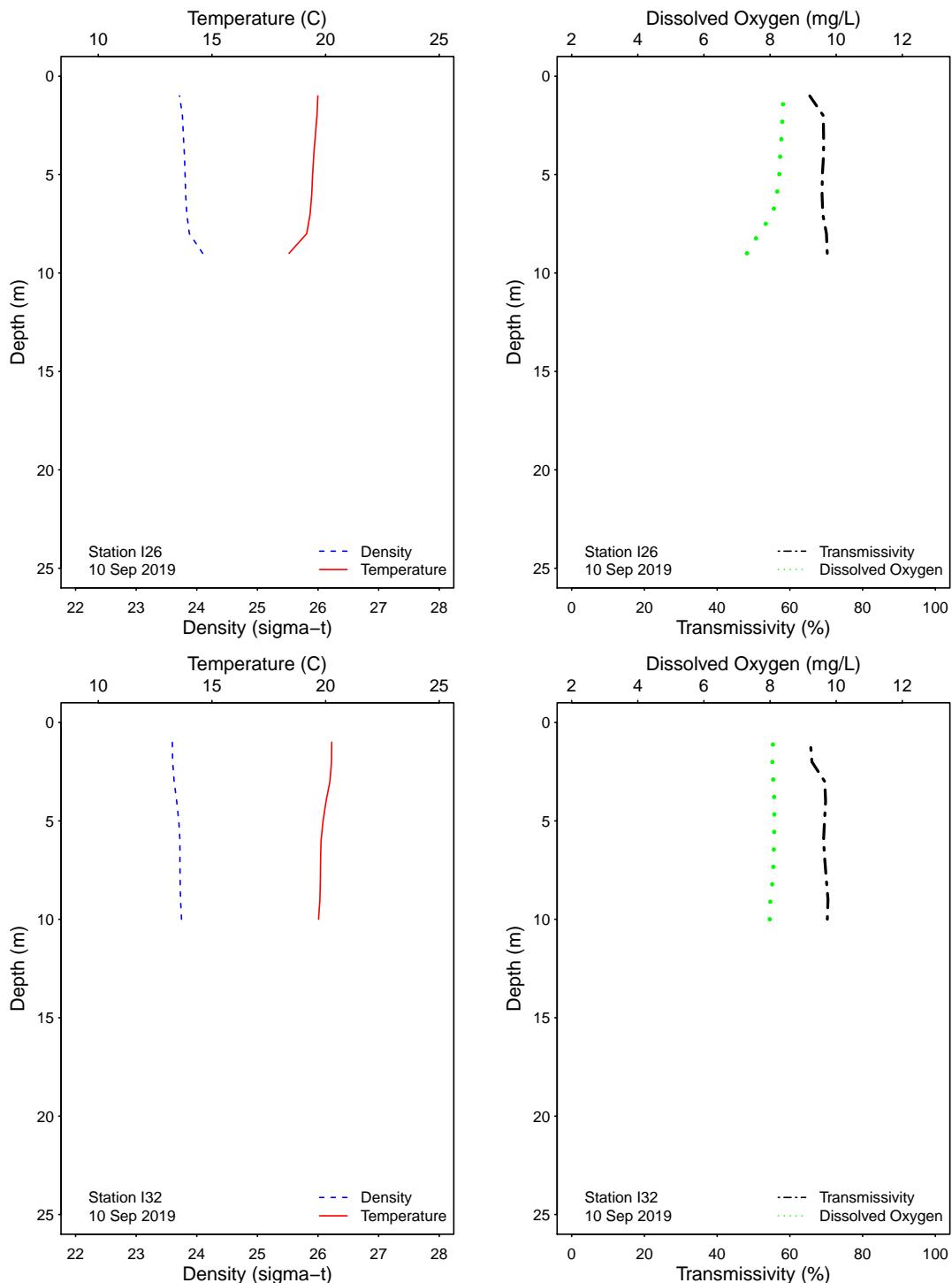


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

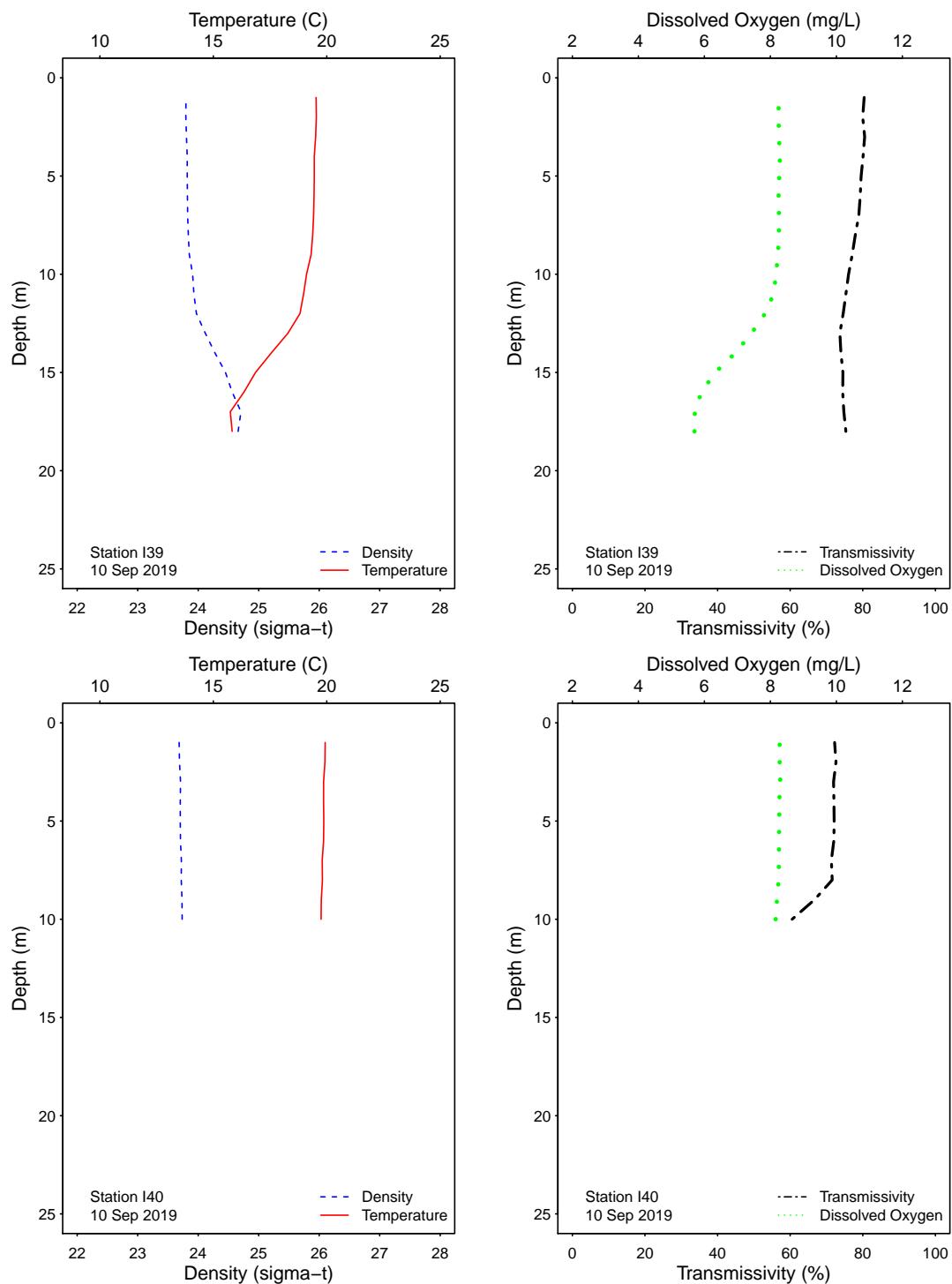


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

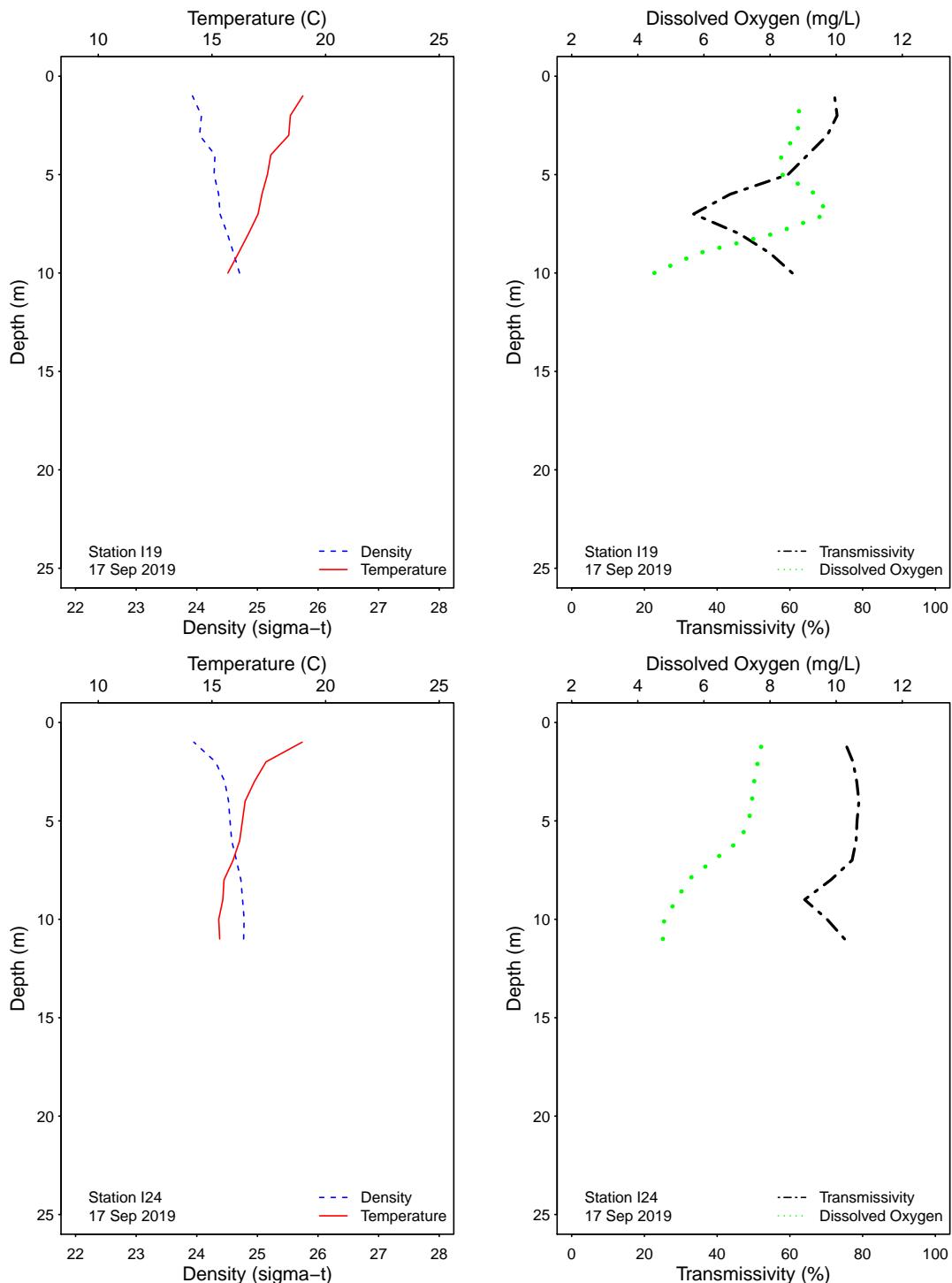


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

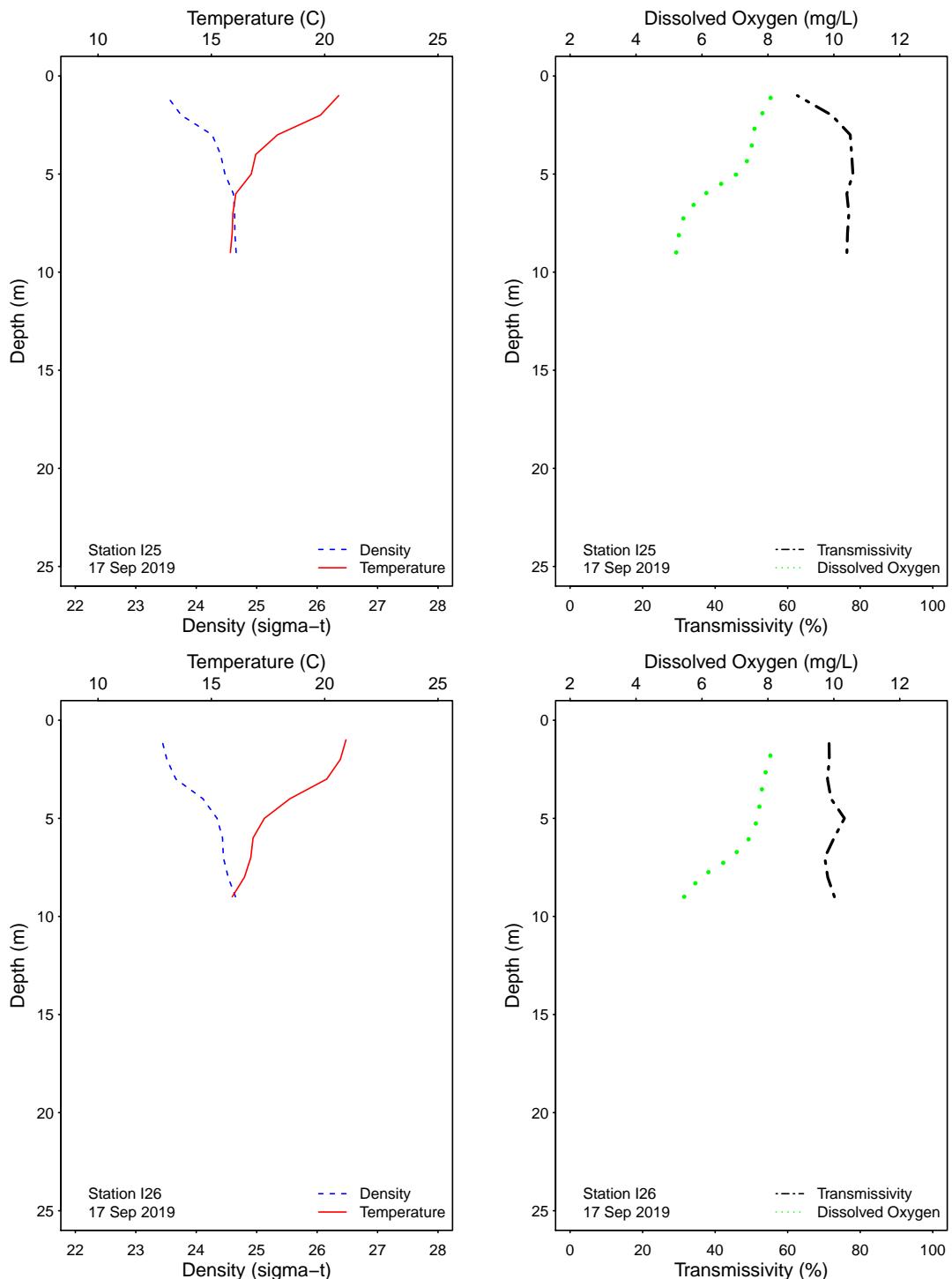


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

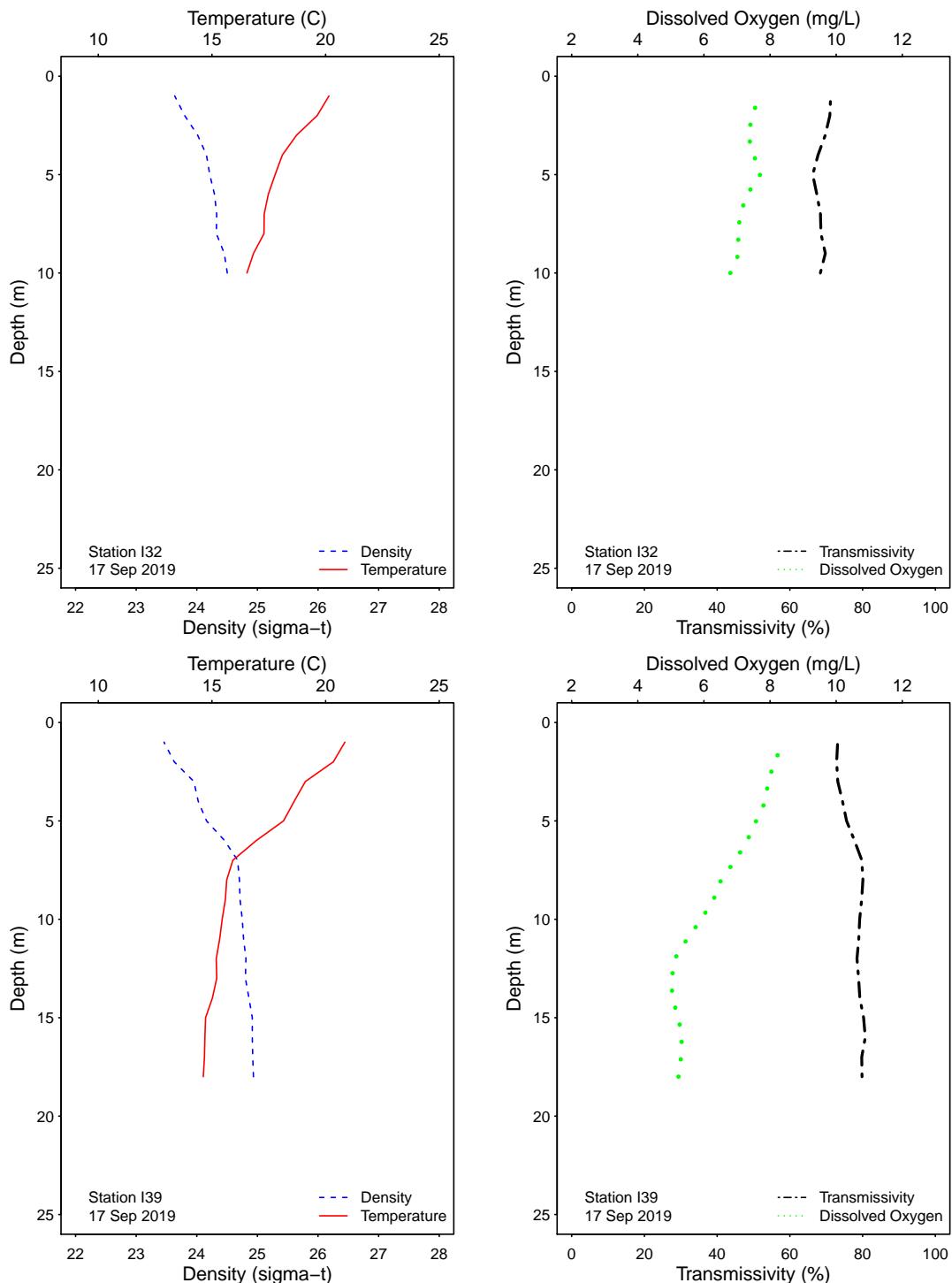


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

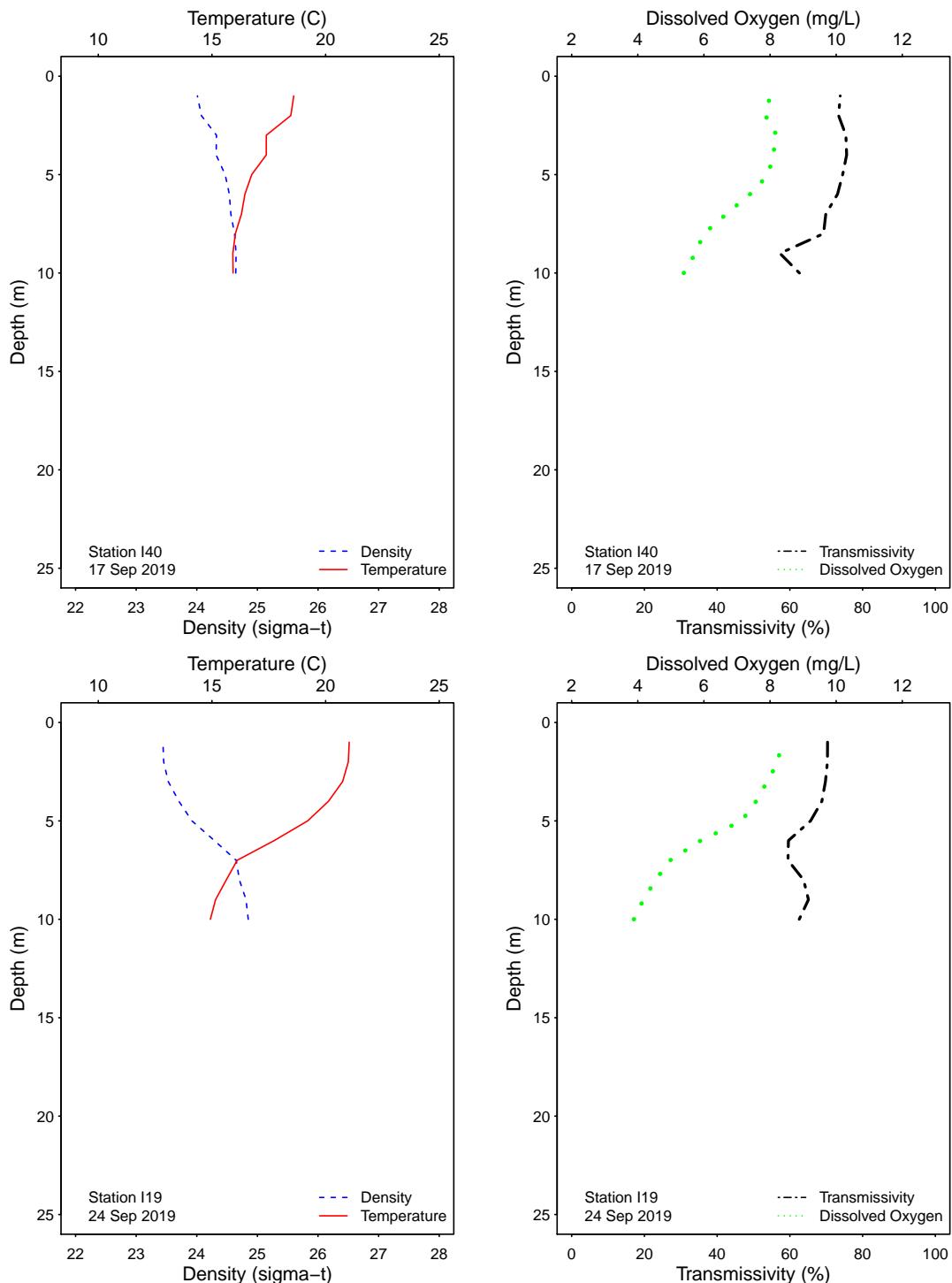


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

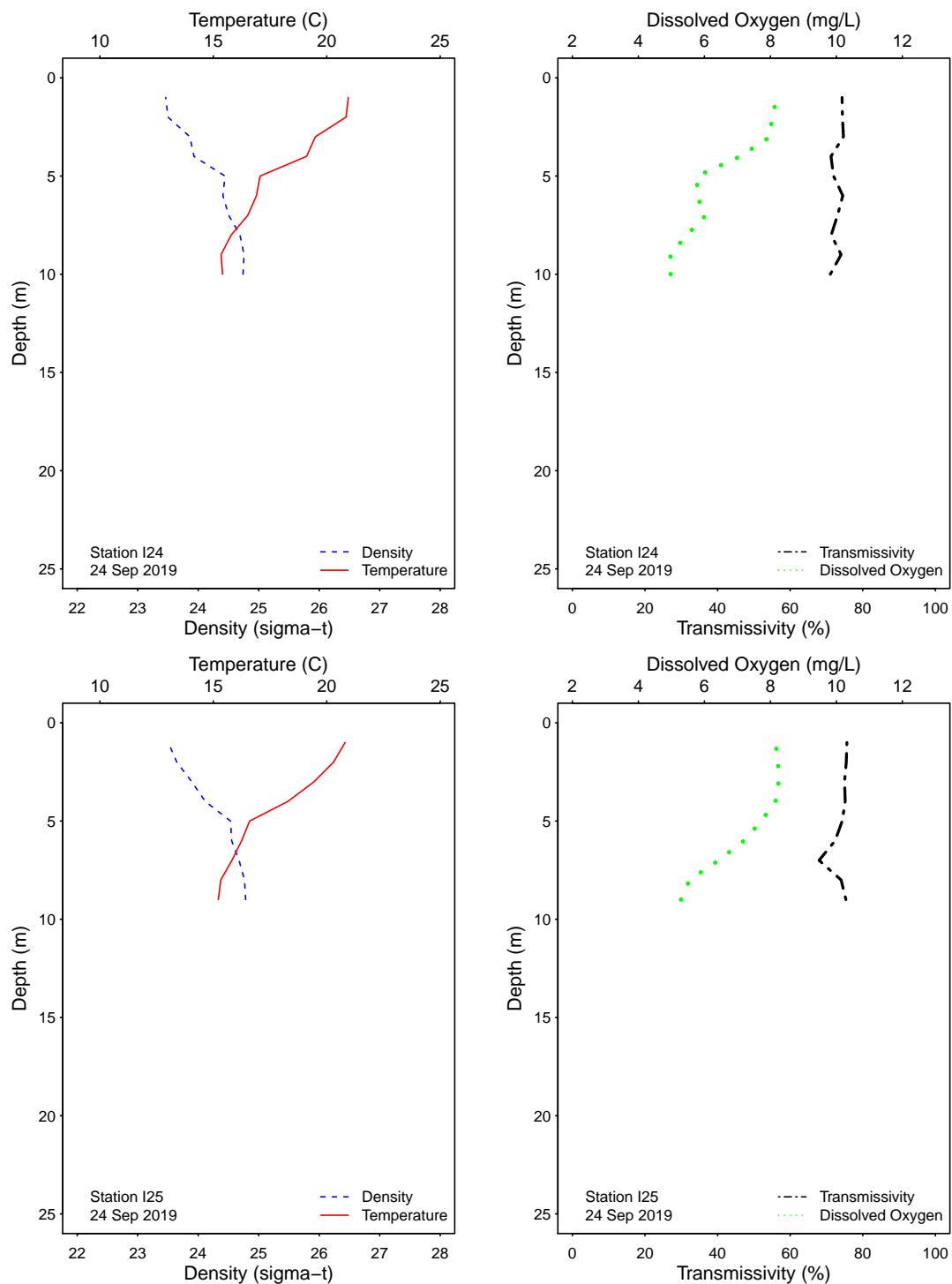


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

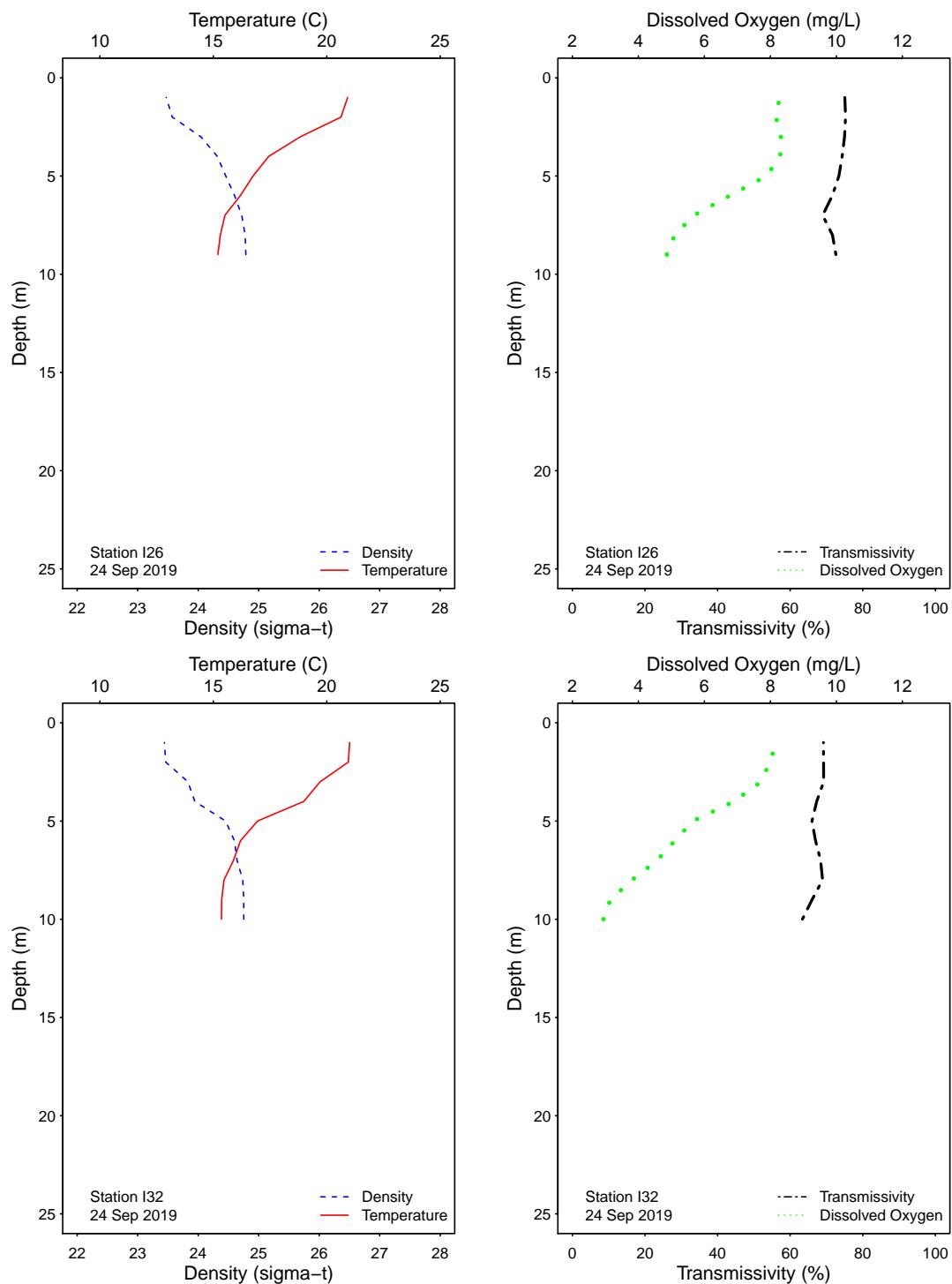


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

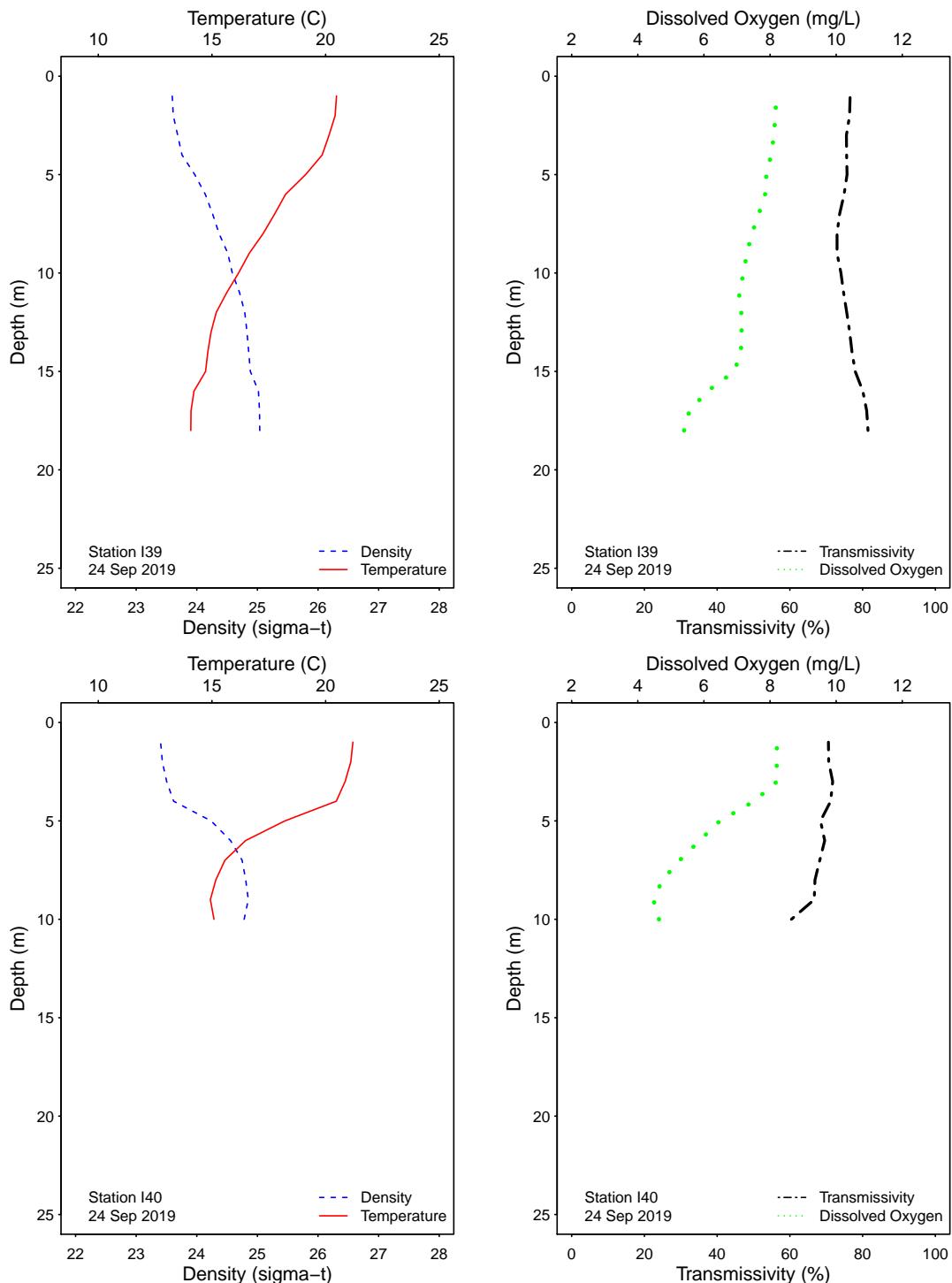


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

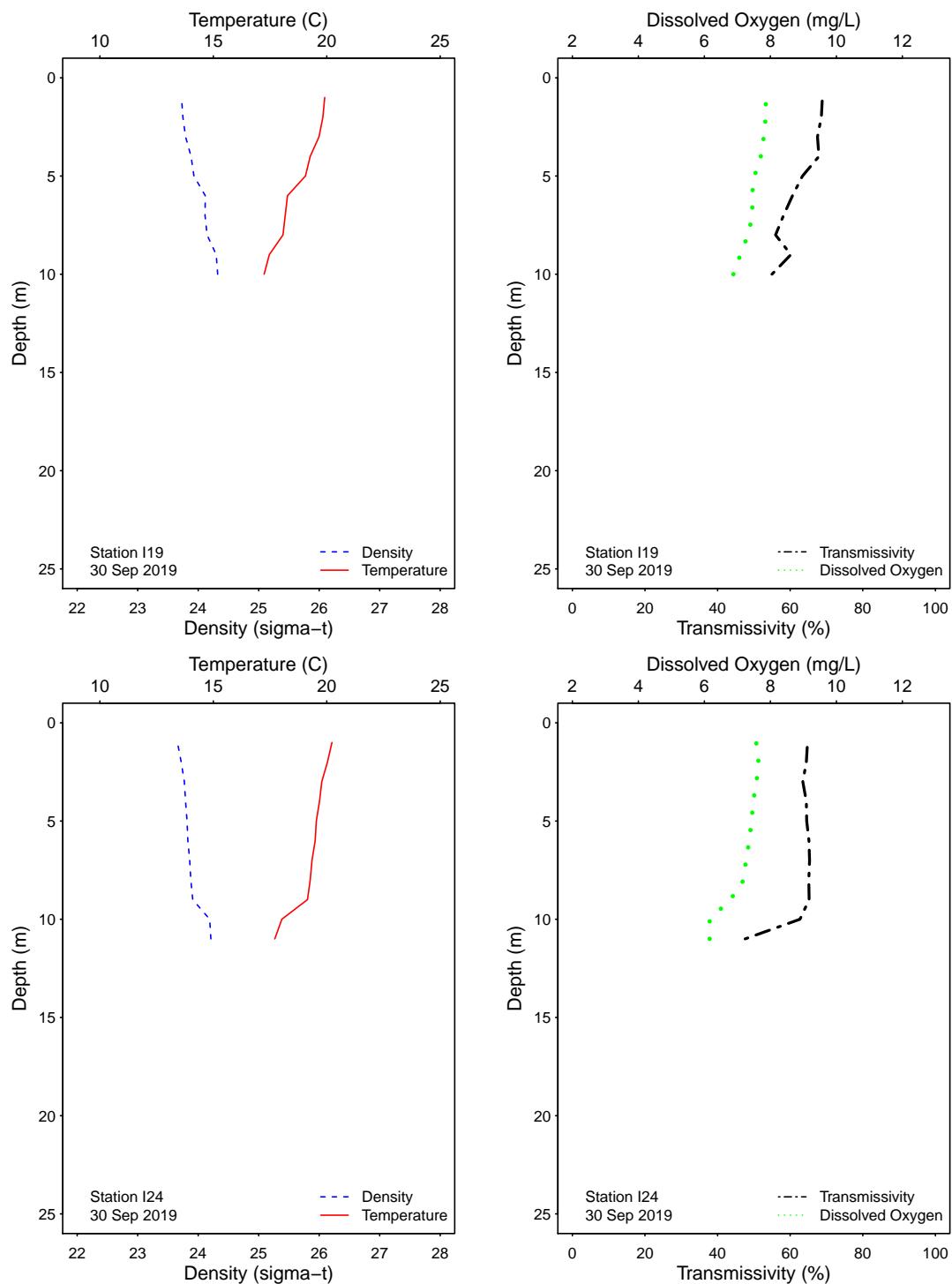


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

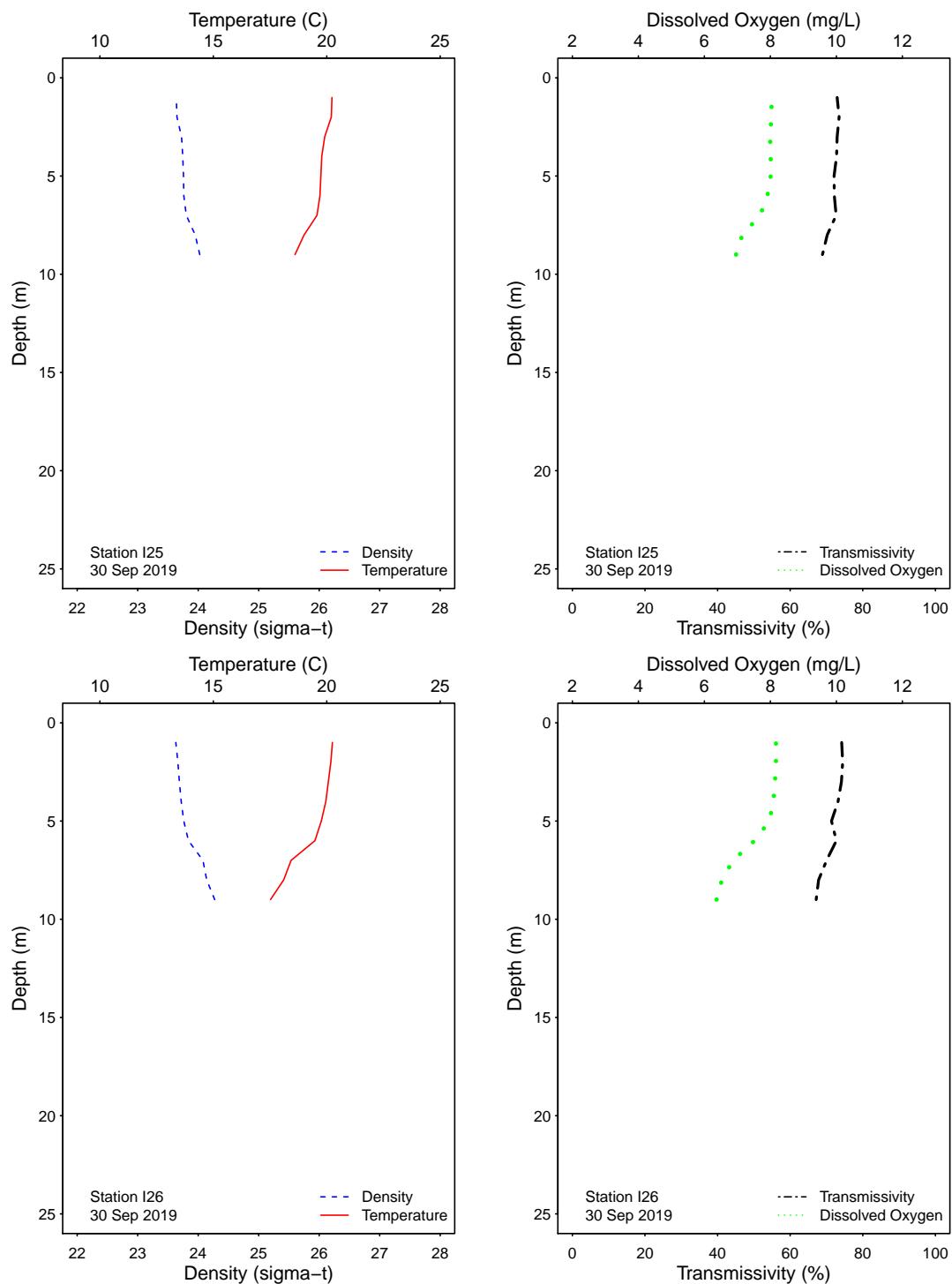


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

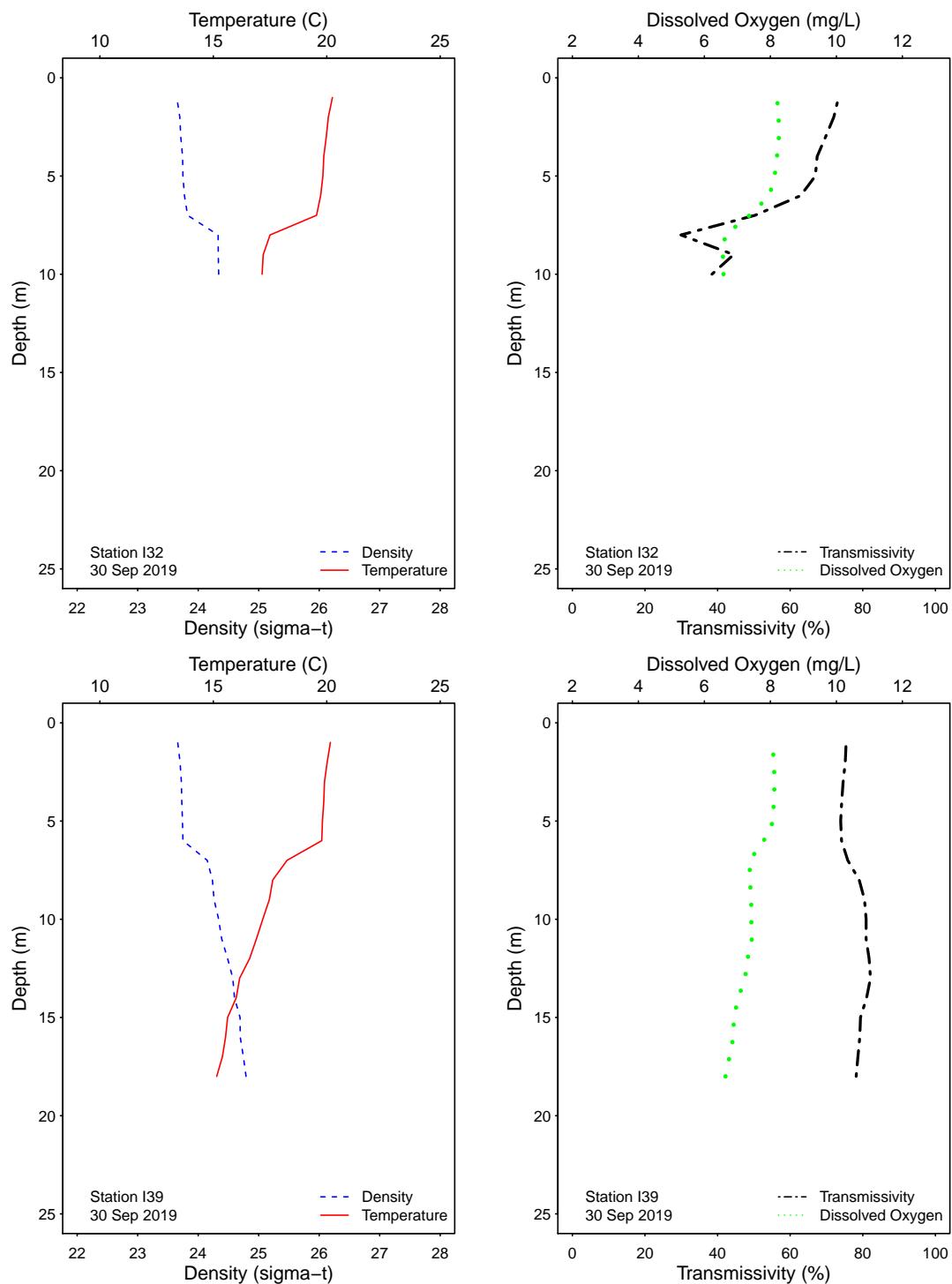


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

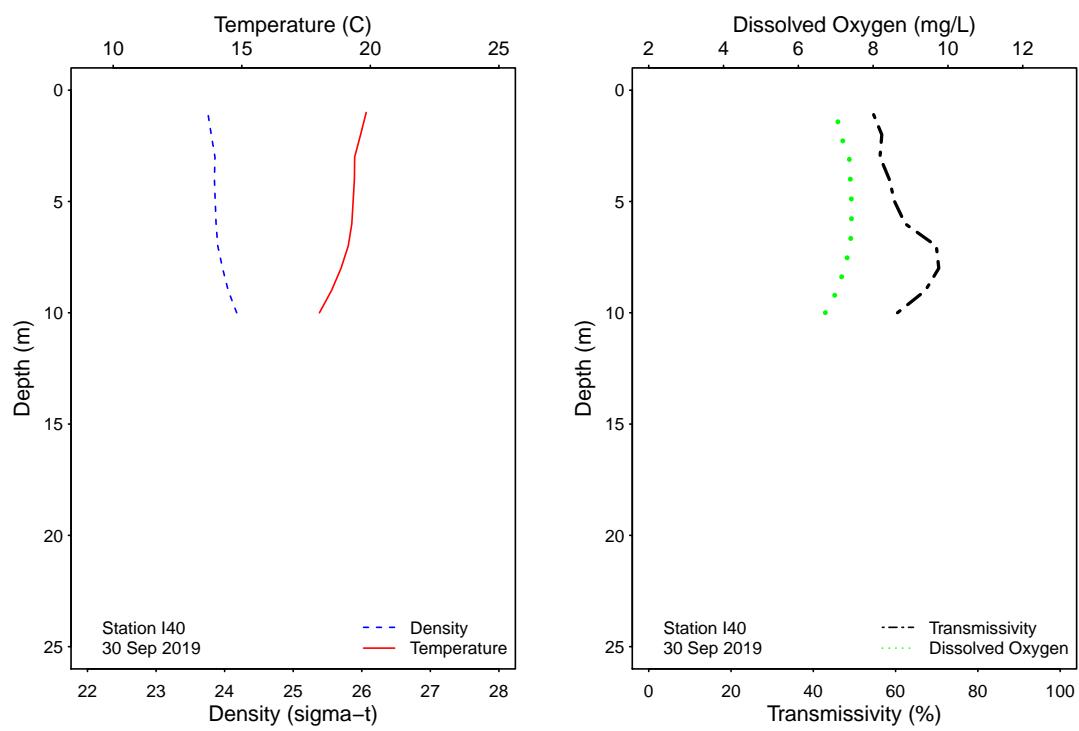


Figure 3.1: Graphics of CTD profile data from the SBOO kelp stations for each sample date.

APPENDIX A

Quality Assurance

Table A.1

Summary of bacteriological quality assurance field and lab duplicate sample analyses at selected SBOO stations. Densities of total coliform (Total), fecal coliform (Fecal), and *Enterococcus* (Enter) are reported as CFU/100 mL.

Station	Date	Depth	Analyst	Procedure	Total	Fecal	Enter
I19	03 Sep 2019	6	JF	LAB DUPLICATE	20e	<2	<2
I19	10 Sep 2019	6	BS	LAB DUPLICATE	10000	260e	4000
I19	17 Sep 2019	6	JF	LAB DUPLICATE	<200	<2	<2
I19	24 Sep 2019	6	AR	LAB DUPLICATE	<2	<2	<2
I19	30 Sep 2019	6	JT	LAB DUPLICATE	<20	<2	<2
I40	03 Sep 2019	6	JF	LAB DUPLICATE	<200	8e	12e
I40	10 Sep 2019	6	AR	LAB DUPLICATE	<20	<2	<2
I40	17 Sep 2019	6	JF	LAB DUPLICATE	<2	<2	<2
I40	24 Sep 2019	6	AR	LAB DUPLICATE	<2	<2	<2
I40	30 Sep 2019	6	JT	LAB DUPLICATE	<20	2e	<2
S12	03 Sep 2019		JT	FIELD DUPLICATE	<20	<2	18e
S12	03 Sep 2019		JT	LAB DUPLICATE	20e	2e	22e
S12	10 Sep 2019		JF	FIELD DUPLICATE	140e	8e	2e
S12	10 Sep 2019		JF	LAB DUPLICATE	100e	4e	2e
S12	17 Sep 2019		JF	FIELD DUPLICATE	20e	8e	2e
S12	17 Sep 2019		JF	LAB DUPLICATE	80e	10e	<2
S12	24 Sep 2019		BS	FIELD DUPLICATE	<20	<2	2e
S12	24 Sep 2019		BS	LAB DUPLICATE	<20	<2	<2

ns = not sampled

ND = no data

